McDONALD INSTITUTE CONVERSATIONS

Delicate urbanism in context:
Settlement nucleation in pre-Roman Germany

The DAAD Cambridge Symposium

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with contributions from
Ines Balzer, Manuel Fernández-Götz, Colin Haselgrove, Oliver Nakoinz, Axel G. Posluschny, Gerd Stegmaier, Anthony Snodgrass, Peter Wells, Günther Wieland, Katja Winger and Caroline von Nicolai

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Chapter 1

Introduction

Simon Stoddart (Cambridge)

The first millennium BC, broadly the Iron Age, was a formative period in the European history for the development of urbanism, but it is usually the Mediterranean perspective that is given emphasis. This volume draws attention to the presence of urbanism in central and western Europe, albeit of a different character to that of the Mediterranean. The pre-Roman urbanism of temperate Europe came in two short and discontinuous phases, the first in the sixth/fifth century BC and the second in the last centuries BC. It is a delicate urbanism in the sense that nucleations and agglomerations only lasted a few generations, whereas the urbanism of many Mediterranean towns and cities lasted very many generations, and in a number of cases are still in the same location today. This raises the question of why the example of urbanism from temperate Europe should be delicate. The traditional reason given is to point to a necessary stimulation from the Mediterranean, in terms of products and ideas. Urbanism was thus seen as a response to the fluctuating contact with the Mediterranean. More recent research shows that the development of urbanism in temperate Europe had its own internal logic. Increasingly the dynamic instability is understood in social and political terms, rather than attributing it to external factors such as the Mediterranean world or changes in the local physical environment.

Advances in the understanding of the different scales of the urban and rural landscape, appreciated both in quantitative and qualitative terms, often with the aid of science, are leading to new interpretations of the definition of the urban form and this volume gives both new data and new approaches from the regions that lie in modern Germany (Fig. 1.1). As alluded to by many of the authors, details and trends given here must be read alongside very broadly comparable developments in Western France in the first phase (e.g. *Vix* and *Bourges*) and both West (Western France and the Benelux countries (e.g *Mont Beuvray* and the *Titelberg*)) and East Europe (e.g *Zavist*) in the second phase. In fact, one conclusion that becomes clear, by placing the German examples in context, is how variable the definition of urbanism becomes.

The region of modern Germany has a fundamental importance in these processes. Indeed the southern regions of Baden-Württemberg and Bavaria provide the two classic models for our understanding the context of Urbanism: *Fürstensitz* and *oppidum*, both distinctive forms of nucleated community. The volume has brought together some leading, mainly early career, figures from Germany who study the period to address the following questions: What makes pre-Roman urbanism in Baden-Württemberg and Bavaria distinctive? Is the term urbanism indeed appropriate? What were the driving forces of production? How was identity constructed? To what extent did the development of urbanism depend on interaction with other contemporary urbanized areas? To what extent were these nucleations centres of power, or did some other form of socially constructed community underlie their formation? To what extent did ritual underwrite their formation? How stable was urbanism in this formative period? The resulting volume is a consideration of the state of play in response to these questions, where understandably some questions are more readily answered than others and new questions raised for future research.

Many of the papers presented question the established definitions of urbanism. The papers firstly air approaches from the German speaking world (Kolb 1984; Hänsel 2005) that have only very recently been more widely publicized in Anglophone literature (Fernández-Götz et al. 2014b). The papers go on to underline the cultural variability of urbanism that has been recognized for a long time (Stoddart 1999), but explore the issue to greater depth in the case of temperate Europe. Whereas many recent models have broadly

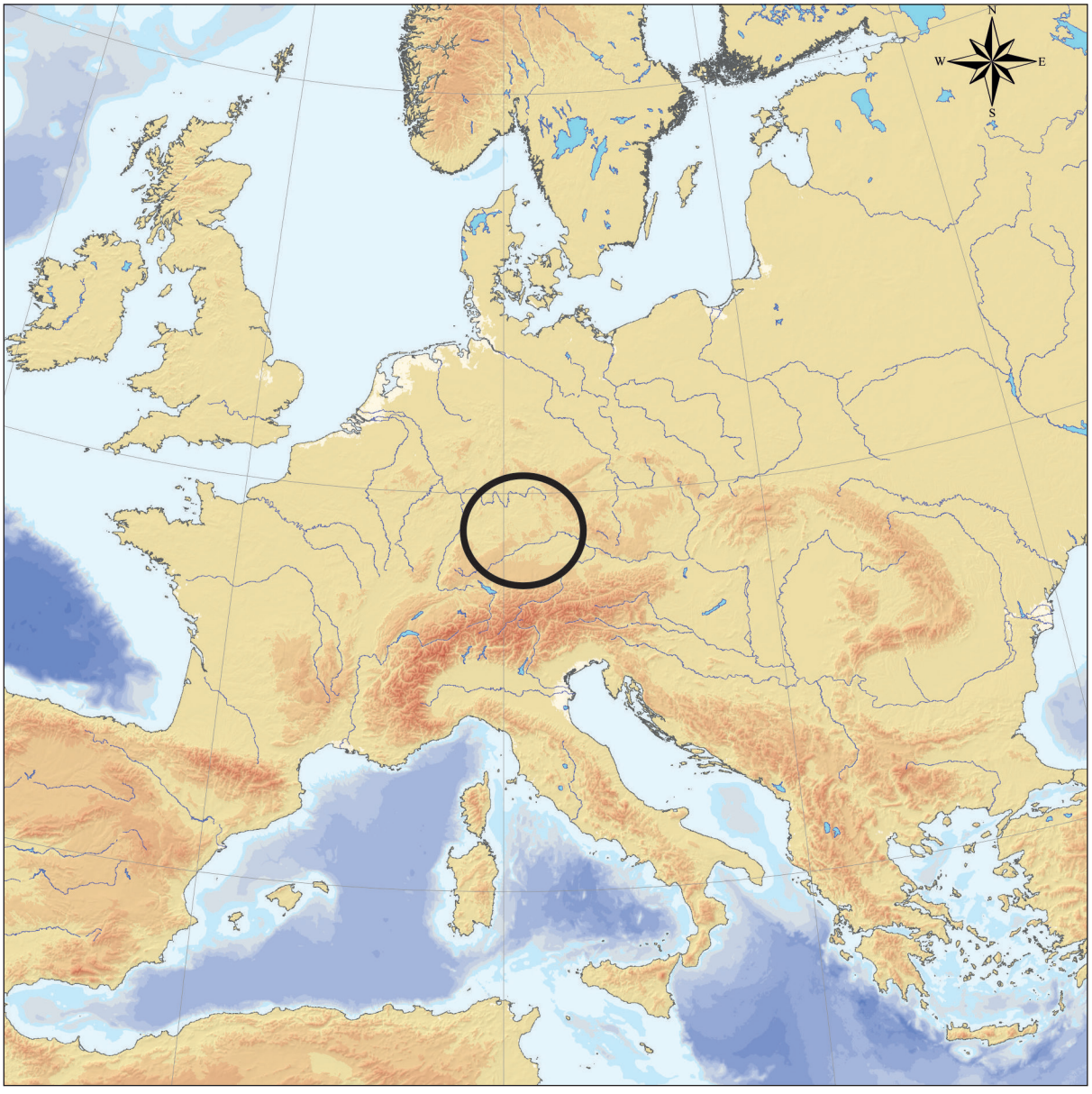

Figure 1.1. *Principal region of study.*

followed Collis (1984) in proposing that early urbanism was based on particular economic roles as originally proposed by Sjoberg (1960) and Smith (1976), many of the current authors emphasise different, more cultural, factors, such as ritual, time, place and knowledge. This approach, in many ways, recalls Wheatley's 1971 and Grimes' 1976 treatment of urbanism, where the first placed ritual at the centre of incipient urban practice and the second theatre at the centre of its ongoing success. It is important to break out of the stranglehold of sociological and functional definitions of urbanism identified by Smith (2007) and consider what is it is to think and feel urban (in the spirit of Sinclair 2010), a much more anthropological and ideological understanding of the urban concept that should be achievable even without the aid of written sources.

The volume starts with two papers which survey the two main periods of potential urbanism. Axel Posluschny examines the traditional model of *Fürstensitze* and questions the unitary approach first proposed by Kimmig (1969). In common with current scholarship, he shows the underlying variability of the main candidates for the status of *Fürstensitze* in the region of modern Germany. In addition, he

stresses probable important factors not included in Kimmig's model, including the presence of underlying ritual and the placing of such significant centres on the boundaries between political communities. His study brings together not only the regional work of the German-funded *Fürstensitze* project, where he played a substantial role, but also up-to-date work from the *Glauberg*, where he is now based. In this latter case, he proposes that the *Glauberg* developed its importance as a centre of knowledge, as much as a centre of population.

Caroline von Nicolai moves on in time to address the later, *oppida*, period of urbanism and commences by critically reviewing the criteria established to define urbanism by different scholars. In a process parallel to that of Axel Posluschny, she takes the debate away from the idealized example of the *oppidum*, *Manching*, to consider a range of other urban candidates in modern Bavaria, and, by these means, substantially enriches the debate. Bavaria appears to have a particularly high level of variability and instability compared with other more northerly and westerly regions in modern France and the borders with modern Germany. Ritual origins also appear to have been less important, with the possible exception of *Manching*.

Gerd Stegmaier builds on the analysis of this later period by showing the presence of two alternative strategies of nucleation and decentralization which, in contrast to the received view, were both practised at the same time. It is particularly apposite that the strategy of decentralization was practised in the very same region of the *Heuneburg*, where centralization had for a time operated in the first phase of the Iron Age.

Günther Wieland considers the alternative reality to the nucleation of *oppida*, by assessing the role of distinctive square enclosures or *Viereckschanzen*. He explores the changing interpretation of these structures (cf Bradley 2003), concluding that many dimensions (practical and ritual) were embedded one within another. He also emphasizes the territorial exclusivity of the *Viereckschanze* and *Oppidum* model of settlement organization, suggesting the presence of different contemporary trajectories of political organization.

Ines Balzer addresses the other dimension of urbanism generally (but not exclusively) located outside the nucleated area (contra *Manching*): the funerary. Processual models of urbanism and state formation have often stressed the close relationship between settlement complexity and social complexity measured by the burial record. Balzer points out the lack of congruence between the sectors of the living and the dead, bearing in mind the exceptional cases of the *Heuneburg* and possibly the *Glauberg*. She allows for the variable state of the archaeological record, and, supported by other authors such as Posluschny, ends by stressing the paradox that large nucleations of population were achieved, at least temporarily, without achieving visible differentiation of wealth in the funerary record on a systematic basis.

Oliver Nakoinz starts by assessing the balance between quantitative and qualitative measures of urbanism, concluding that both are required. He then turns to the specifics of a quantitative approach applied to the *Heuneburg*, including Agent Based Modelling. In common with his earlier publications, he concludes that the *Heuneburg* was a network gateway, lacking proper hierarchical structures, politically sensitive and thus vulnerable to slight perturbations in the natural environment, leading to short term cycles of nucleation and dispersal. He works towards a quantitative anthropology of network interaction that runs independently alongside the work of Boissevain (1964; 1992), as discussed below.

The Urbanism of temperate Europe has traditionally been considered in the shadow of the Mediterranean. Katya Winger elegantly turns this on its head by comparing the *Heuneburg* and *Athens*, *Manching* and *Rome* in their own terms, revealing unexpected parallelisms that deconstruct the primacy of the Classical World. The Mediterranean world has always been confident in the deployment of the term urban, because it is a concept emic to Mediterranean culture. Studies of the temperate European Iron Age have been more cautious, because the etymology of urban is external, but the balance is now redressed. However, this similarity is also built of qualitative and quantitative difference. In qualitative terms, the societies were very different, and this divergence led to a major quantitative difference, namely their delicate trajectory, which, as already mentioned, was fragile in terms of its durability.

The volume closes with some reflections from Manuel Fernández-Götz, Colin Haselgrove, Anthony Snodgrass and Peter Wells. These scholars were chosen to reflect different points on the intellectual compass and, at the risk of following a Greek model, appear in alphabetical order. Manuel Fernández-Götz, the younger scholar, combines a German, Spanish and recently Scottish heritage. Colin Haselgrove has a perspective from the West. Anthony Snodgrass brings (as he explicitly states) a southern Mediterranean viewpoint into the equation. Peter Wells, while a very experienced fieldworker and scholar of German urbanism, also introduces a transatlantic Anglo-Saxon dimension.

Manuel Fernández-Götz chooses to deconstruct the primacy of the Mediterranean, emphasizing its parallel development, while pointing out the heterogeneity of urbanism on a broader global basis. He also

usefully emphasizes the variability of nucleation, a point stressed by Roland Fletcher in the many levels of density of the urban form (Fletcher 2007; 2009; 2012). As he indicates, one function of apparent open space may, however, have been for the temporary assembly, a delicately articulated nucleation in itself, of large numbers of the community for special collective practices that forged a deeper identity of their urban life.

Colin Haselgrove emphasizes diversity of terminology and pattern, elucidated by taking a sufficiently broad contextual approach to the study of urbanism, although, like many scholars of temperate Europe, he worries about making direct comparisons with the Mediterranean. He notes that some of this context, namely the regional dimension, is lacking in comparison with other regions of Europe, such as England, France, and one can also add Italy and Greece, where developer funding or systematic survey have added the 'rural' dimension in sufficient quantity to allow big data (e.g Bradley et al. 2015; Palmisano et al. 2017) to override the standard sampling problems of archaeology. Context also entails placing urbanism in comparison with contemporary developments which show the importance of unenclosed agglomerations and polyfocal nucleations.

Anthony Snodgrass develops the issue of the Mediterranean comparison, by pointing out that the narrow definition of urbanism from that historical source can no longer hold ground. He continues by looking at the historical trajectory of urbanism, distinguishing those zones which already had urban life when the Romans later incorporated the landscape and those that did not. History is thus brought back into the study of urbanism.

Peter Wells concludes the review of the papers in the volume by developing four themes – ritual, design, communication, and interregional integration – where the centrality of Germany within the continent of Europe allows the modern region to play a major role. In his treatment of ritual, he emphasizes the institutionalization of ritual which might have provided a cohesive focus of the newly agglomerated societies. In his reference to design, he raises the question that new concepts of design, detectable in material culture, may have accompanied the new social and political formations that were embedded in changing forms of urbanism. In a parallel raising of issues, his mention of communication penetrates the matter of how more closely nucleated communities were able to interconnect, particularly since writing (at least in its Mediterranean form) was not visibly present. Finally, he echoes the words of many of the contributors by stressing that the pre-Roman German experience of urbanism can only be fully understood by a broad inter-regional comparison, that demonstrates the interlinked diversity of the urban form.

These papers take the study of temperate European urbanism many strides forward into a proper comparative framework that elucidates deeper characteristics of what it is to be urban.

One feature that still needs further analysis is the characterization of the society of the period. The identity of the communities involved was very probably situational rather than hierarchical (Carr and Stoddart 2002: 328). One way forward is to draw on ethnographic comparisons such as those offered by Mary Helms (1998) for the definition of aristocrats. For her the key elements are: Exceptional access to and identification with contexts of the cosmological, sources and origins; Detailing and recording the nature of time; Extending cosmographical contacts and acquisitional activities; Long distance travel; Trade; craft production incorporating the encouragement of development of the creative arts, especially as they relate to regalia and ceremonials; Incorporation of affines; services; Marriage; Political ideological generosity. All these elements are very different from a traditional definition of urbanism, but interconnect readily with many of the features identified in first millennium BC society in the current geographical region of Germany. Aristocracy was thus an unstable living practice that needed constant *living* reinforcement, carrying in life an influence that could not necessarily be transferred between generations. This may explain two key interconnected features of the social formula of the period: the lack of a consistently conspicuous funerary record (and a record which when conspicuous was already robbed and contested in antiquity) and the diverse site biographies of the relatively short lived agglomerations or nucleations of population (that themselves suffered archaeologically visible reversals) (cf Fernández-Götz & Ralston 2017). These factors also explain the degree of ritual iconoclasm (if not too modernist a term) that is visible at *Vix-les Herbues* in France and the *Glauberg* in Germany.

Dynamic cycles of centralization and decentralization took place in both the Mediterranean and in temperate Europe (Stoddart 2010; 2016), but, whereas in the Mediterranean, the city centre frequently remained as a fixed point in the landscape, in temperate Europe, the urban centre was much more unstable (Collis 2010; Eller et al. 2012; Fernández-Götz 2014e; Krausse 2008; Salač 2012; Augier & Krausz 2012). The contrast in territorial size proposed by Collis (2014), which emerges out of a simple contrast with the Greek *polis*, is less clear once the variability of other Mediterranean urbanism from Italy is included in the discussion (Stoddart 2016). The well-researched sites of Germany, like the

Heuneburg and *Manching*, where detailed inference can be drawn do not maintain their coherence for more than a few generations. This points, amongst other factors, to social and political structures which were radically different from those of the Mediterranean, where many cities maintained their political coherence for periods in excess of half a millennium, sometimes even elastically reconstituting themselves when deeply threatened by external forces. Ordered succession to political power was much more deeply rooted in some (but not all) Mediterranean urban structures. Some of these political successions were also mirrored by powerful social genealogies (particularly in Etruria and Latium) that contributed to the offices that gave structure to the continuity of the urban form. Some of this information is derived from the written records of the Mediterranean, but other information is embedded in the genealogies of tomb groups. Comparable research on the descent groups of the temperate Iron Age of central Europe, as developed by Bettina Arnold (2002; 2011) and presented here by Ines Balzer, registers the apparently shorter life cycle of political power in these temperate urban communities of pre-Roman Germany. A strict mirroring of political power in the burial record has long since been rejected as a processual rule by archaeologists, but the deployment of materialized memories by Mediterranean urban societies in their cemeteries does contrast with all but the exceptional examples in the record of the cemeteries of the urbanized societies of temperate Europe.

At a broader level the question remains what underlies the difference between delicate and robust urbanism? Axel Posluschny in this volume contrasts the term network with hierarchy. Crumley (1993; Crumley and Marquardt 1988) contrasts the term heterarchy with hierarchy. Even in the relatively modernist times of Horatio Nelson a special term, *interest*, covered the organization of preferment within a complex organization, the British Navy (Sugden 2004). Even in the present day, the stability of complex financial structures is affected by the formation of small-scale social networks (Tett 2010). Helms (1998) and Axel Posluschny in this volume emphasise knowledge and cosmology as key variables of political and social control, rather than the perhaps modernist concept of religion. There is also material evidence of dispersed power in the form of open agglomerations (such as *Bourges* and *Lyons* (Ralston 2010; Fernández-Götz & Ralston 2017), polyfocal settlement and the much discussed *viereckschanzen*. All these elements suggest that the political hold on power, the concretization of succession (Goody 1966; Stoddart in press), was not as institutionalized as was the case in at least some parts of the Mediterranean world.

The way forward is to develop explanatory frameworks which are both quantitative (e.g. Nakoinz this volume) and qualitative (e.g Winger this volume), such as presented by Axel Posluschny in this volume. The qualitative anthropology of Boissevain (1964; 1992), Helms and Goody can inform on the range of means by which ritual, networks and successions of power were orchestrated in societies ungoverned by the political inheritance of Greece and Rome. The quantitative methods of the sciences (e.g. Styring et al. 2017) can help address causal mechanisms, such as climate, carrying capacity and the stress of scale. However, the case can be made that instability was inherent in the social fabric, and thus detectable in their places of agglomeration, without resource to external factors, be they the availability of Mediterranean exchange products or the slight changes in climate or environment.

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Notes

1. urbane: 'classical Latin urbānus (adjective) of, belonging to, or connected with the city (esp. Rome), living in the city, exercising authority, control, supervision, etc., in or over a city, having the style of the city, elegant and sophisticated, (of speakers or writers) polished or elegant in style, smart, witty, (of attitude or demeanour) having a townsman's assurance, free from embarrassment, (noun) city-dweller.' Oxford English Dictionary

Part 1
Regional differences

Chapter 2

Early Iron Age *Fürstensitze* – some thoughts on a not-so-uniform phenomenon

Axel G. Posluschny (Glauberg)

There has been a long lasting discussion in European, and especially German, archaeology about the role of the so-called *Fürstensitze* (*Princely* Sites), since Wolfgang Kimmig published his definition of the term *Fürstensitz* in 1969 (Kimmig 1969). Kimmig described parameters that, for him, defined such a site: One of his criteria was the fortification of the settlement, another was the position on a prominent hill. Additionally, he stated that there should be Mediterranean imported goods (such as Greek or Italian transport amphorae or drinking vessels) and, last but not least, that there should be large burial mounds (*Fürstengräber*) nearby, containing exceptional material culture of the nobility, who lived on the *Fürstensitz*. Kimmig and his disciples not only gave definition to the term *Fürstensitze*, they also tried to interpret this kind of settlement as a central place, inhabited by the 'reigning nobility', supported by the power and the wealth to participate in a system of long-distance contacts with Italy, Greece and southern France.

In contrast to this perspective of Kimmig, the following short overview of some of the *Fürstensitze* in southern Germany illustrates the diversity of this category of sites (Fig. 2.1). The essential points of the best known sites are outlined first, whereas the *Glauberg* will be addressed in more detail in the second section.

The best known site is the *Heuneburg* in Baden-Württemberg (for an overview see Krausse et al. 2016). The settlement is located above the banks of the river Danube, a relatively minor river at this point, but most likely navigable from here downstream in the Early Iron Age. A, now partially reconstructed, rampart surrounds the main settlement, and a number of rich graves under mounds are located in its vicinity. Mediterranean finds have been found in these graves, but especially in the settlement itself. The rampart fortifies a hilltop settlement that could be described as an *acropolis* while large areas surrounding it have been densely populated as some kind of *suburbium*, at least during some of the periods of the hillfort's occupation.

The *Ipf*, occupied both in the Late Hallstatt and the Early La Tène period, is one of the most impressive sites from the landscape perspective (Krause 2014). A number of settlement sites have been found in its vicinity, some of them most likely directly subject to the *Ipf* itself and some probably with a higher ranking and thus politically independent. There are rich graves nearby and, moreover, there is a wide range of Greek pottery that has been found during recent excavations.

The *Marienberg* in Würzburg in northern Bavaria shows the range of sites that are categorized as *Fürstensitze*. The site – impressively situated above the river Main – is nowadays covered by a late medieval/early modern fortification. During excavations, mainly in the 1960s, traces of an undated fortification were recovered which could date to the Early Iron Age allowing for some considerable margin of error. A handful of Greek sherds have been discovered amongst the great number of Late Bronze Age and Early Iron Age finds, and their number has recently been augmented by new Greek sherds just recently unearthed during a rescue excavation in the courtyard of the fortress: Heyse/Feuerhahn 2016). Rich graves that could be connected to the hilltop settlement are, however, still missing. Hinterland investigations have shown that the *Marienberg* could have been supplied from its environs, but that the production of an agricultural surplus was not very likely from the settlement itself (Posluschny et al. 2012). The function of this site was most likely connected to its roles as a trading point, controlling and using the important route along the river Main.

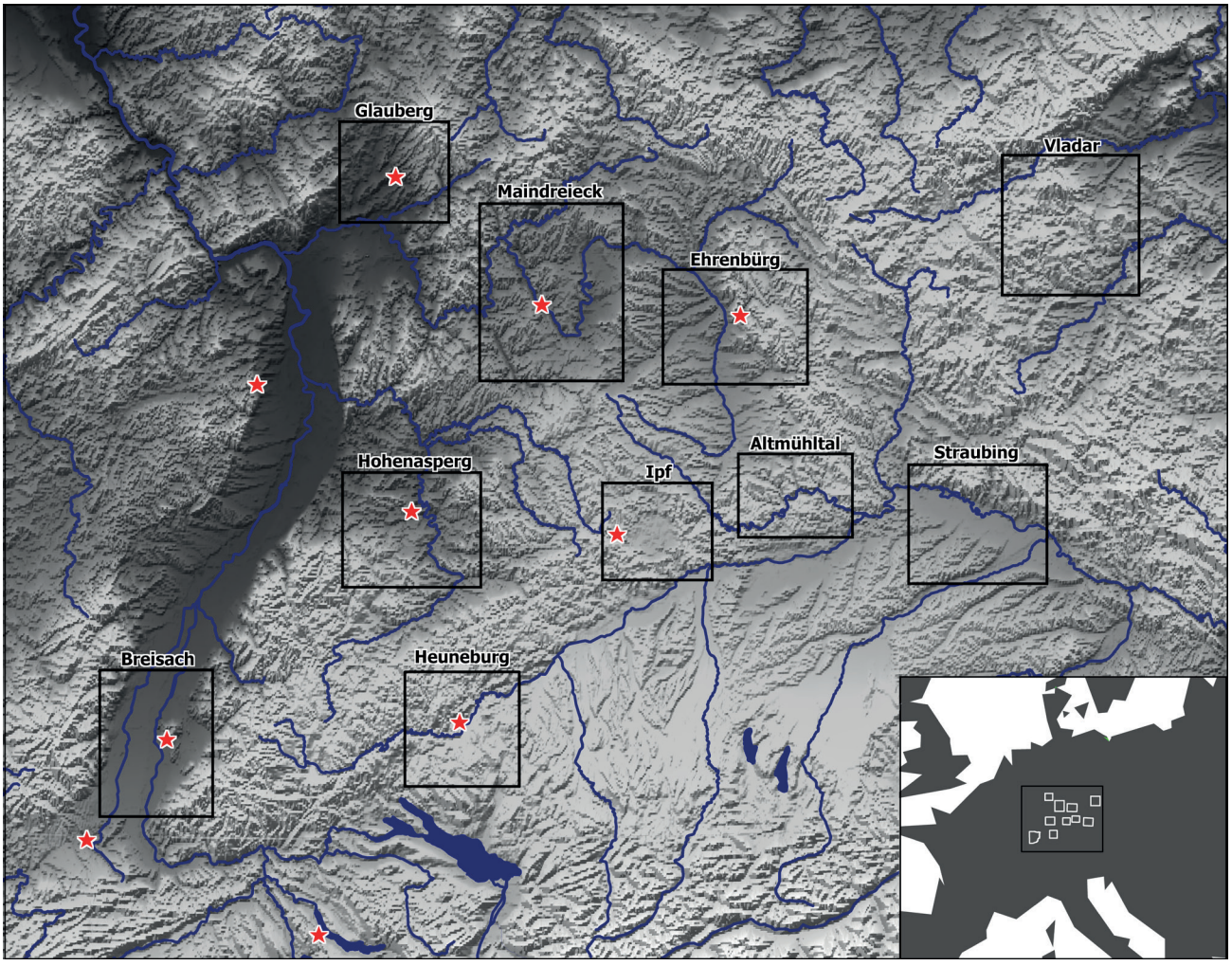


Figure 2.1. *Map of* Princely Sites *mentioned in the text. DEM SRTM90.*

The Glauberg as the northernmost *Fürstensitz*

The *Glauberg* on the eastern rim of the fertile Wetterau region is the northernmost *Fürstensitz*. With its still visible ramparts surrounding the hill's plateau, the *Glauberg* was, of course, a place that attracted researchers rather early in archaeological research, so it comes as no surprise that the first more or less regular excavations started in 1911/1912. Its main investigations started between 1933 and 1939 (Heinrich Richter; see Schallmayer 2011), although the excavation archive was almost completely destroyed in 1945. This investigation was followed by extensive excavations by the State Heritage Service of Hesse from 1985 to 1998 (Fritz-Rudolf Herrmann; the settlement excavations are published by Baitinger 2010), a large-scale magnetic survey from 1994–2001 (Posselt & Zickgraf) and were also part of the DFG (German Research foundation) research programme by the University of Mainz from 2004 to 2010 (Pinsker & Zeeb 2008; Hansen & Pare 2016).This work has now been followed by a small excavation on the plateau in 2016 (Röder et al. in press) and by another excavation on the southern side of the hill in 2017 which brought to light an Early La Tène burial of a woman with two bronze arm rings and 2 amber beads in a tree trunk coffin directly underneath the rampart which surrounds the whole *Glauberg* hill. The armrings ('Vierknotenarmringe') represent the same type of armring that was found in the main *princely* burial. Further investigation is needed to assess the chronology of these graves and the construction of the rampart/ditch system and the so-called procession avenue around the *Glauberg*.

While the Heuneburg is dated to the Late Hallstatt period, the *Fürstensitz* period of occupation of the *Glauberg* – though also occupied in the Late Hallstatt

period – is primarily during the Early La Tène period. The plateau of a hill of about eight hectares has been fortified, while another twelve hectares have been fortified by a rampart and a ditch to incorporate a spring in the north end of the plateau and the whole area is surrounded by another (unfinished or interrupted) rampart-ditch system which is only now known to a small extent but covers an area of up to 250 hectares. Again, the site is thus a fortified hilltop settlement with rich graves in its vicinity (for an overview of the burial sites see Pinsker & Zeeb 2008), some kind of *acropolis* and *suburbium* (or at least remains of houses and storage pits on the slopes of the hill), but no Mediterranean goods have been found so far (probably with the exception of Mediterranean coral finds: Fürst et al. 2016 and the evidence of the red colour made from Mediterranean cochineal scale used to dye some of the textiles from the *Glauberg* graves: Balzer et al. 2014). While there is no doubt that the place had some importance during the Early Iron Age, there is also no evidence that the *Glauburg* hillfort was the centre of a densely populated area – it seems to have played no role as a focus of population.

The long-lasting interest of many archaeologists for more than 100 years might be because the *Glauberg* was an imposing fortified hilltop settlement which looks rather impressive when approached from the near distance – we will see later that this is less the case when one looks at it from a greater distance. However, the *Fürstensitz* criterion of imported Mediterranean goods was not fulfilled – at least not clearly for the precise site of the *Glauberg*. We know of a handle from an Etruscan Bronze Vessel from the fourth century BC which was found in 1855 on a field in *Nidda-Borsdorf* (Kimmig 1990), some 20 km north of the *Glauberg*, and, in around 1900, the fragment of a bronze neck

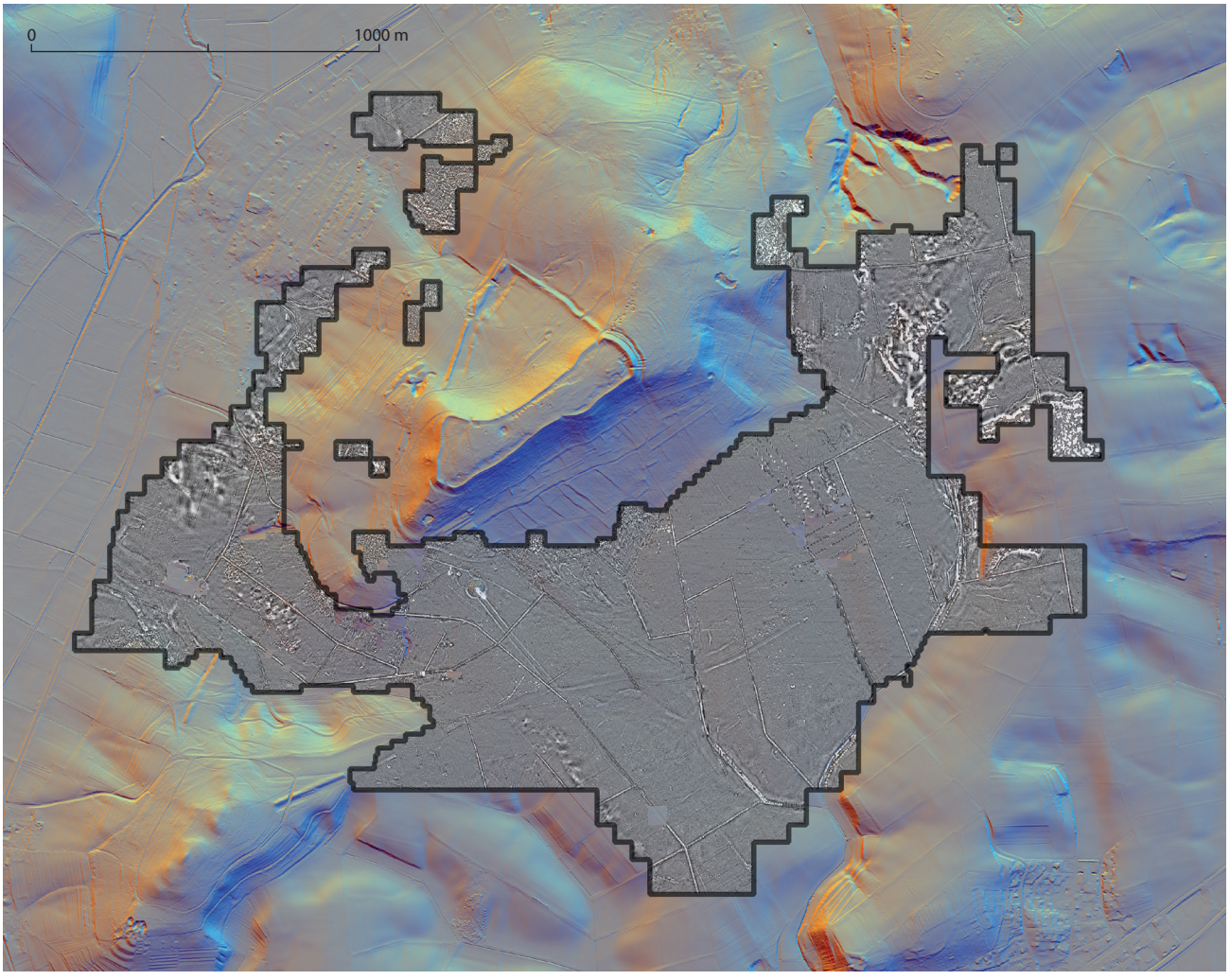


Figure 2.2. *Area of the magnetometer survey on the* Glauberg *between 1994 and 2001.*

Figure 2.3. *The bronze Celtic style* Schnabelkanne *from the* Princely *burial 1 (burial mound 1) from the* Glauberg *(photo U. Seitz-Gray).*

ring, was found in a field on the southern slopes of the *Glauberg* itself (Frey 1980). The rather unusual style of the ring might have been influenced by Persian artists. However, even if we would accept these finds as a proof of Mediterranean contacts of the people from the *Glauberg*, the question then remained: Where are the *Princely Burials*, the *Fürstengräber*?

Amateur archaeologists discovered the shallow remains of a round structure on an aerial image in 1987 and the State Heritage Service focused on this ditch with a diameter of 70 m for trial excavation in 1994 – only to find out that this ditch was part of a flattened burial mound (Tumulus 1). In its centre, the excavators found an empty pit of 2.4 by 2.8 m – most likely not a plundered grave but a pit that never contained a burial or anything else. However, two other features were then discovered which contained the remains of two very rich burials. Finally, on 24 June 1996, the excavators found what can only be described as sensational – a life-sized stone statue of a *Celtic* style warrior, lying in one of the ditches around the burial mound.

All these discoveries led to a very large-scale magnetometer survey of 250 hectares – at that time the largest geophysical survey in the world (Fig. 2.2). Apart from a number of pits, ditches and ramparts, this survey revealed another, smaller, ring ditch with a burial pit in its centre, just some 370 m south of the main burial mound (Tumulus 2). Again this burial was recovered as a block and excavated in the laboratory.

The three graves revealed a number of very extraordinary finds. Grave 1 (Tumulus 1) contained the skeleton of a 21–28 year old person, most likely a man, 1.69 m tall, with a shield, a gold torc, gold arm ring and gold finger ring, various fibulae, a sword, spear and arrow heads, a belt and an iron wire which was the remains of a rather unusual headdress or cap. A bronze flagon, a so-called *Schnabelkanne* – a typical *Celtic* style variant of an Etruscan *Schnabelkanne* – was found in the southeastern corner of the burial chamber (Fig. 2.3). It was wrapped in cloth and contained honey wine (mead).

Burial number 2 in the same tumulus was a cremation on a wooden tray, placed in a 2.3 by 1.3 m wide pit. The burial contained the ashes of a 30–40 year old man with an iron sword, four spear heads, a richly decorated belt and a bronze fibula with coral beads. The most notable find was the very rare bronze flagon, a so-called *Röhrenkanne* (Fig. 2.4), once again containing the remains of mead.

Finally grave 3, the only grave in the smaller Tumulus 2, contained a tree trunk coffin of a 16–20 year old man with a gold arm- and a gold finger ring, shoe trimmings, a leather belt with a sword, a spear head, a small gold-layered bronze fibula and a 10.5 cm large bronze double mask fibula with 109 coral inlays (Fig. 2.5).

One further fact seems to be important to mention: All three graves contained grave goods which make us think that they were burials of warriors with weapons as well as with gold items, a possible indication of their

high social status – a social status that might have been connected with the status of the hillfort and with the meaning and importance of the site as a Central Place – however this term may be defined.

The, already mentioned, life-sized stone statue of a warrior that was found in a ditch is one of the finest pieces of stone sculpture that are known from the European Iron Age (Fig. 2.6; a 3D model of the statue can be accessed online: http://tinyurl.com/y9afrkvv). However, in addition to the complete statue, another 130 fragments, from at least three, more or less totally destroyed, statues were also discovered in the ditches, and these seem to have belonged to very similar statues to the complete one.

We do not know if the complete statue was intentionally buried – like the remains of the three warriors – or why the other three statues were destroyed. However, it is now clear that the complete statue was broken from its base and slipped into the then still half open ditches, coming to a halt at a post that was erected in that ditch (Klausmann in preparation).

Figure 2.4. *The bronze* Celtic *style* Röhrenkanne *from grave 2 (burial mound 1) from the* Glauberg *(photo W. Fuhrmannek).*

Figure 2.5. *Bronze double mask fibula with 109 coral inlays from grave 3 (burial mound 2) from the* Glauberg *(photo P. Odvody).*

We also do not know who is represented in the four statues – were they symbols for the most powerful persons from the *Glauberg*, a personification of specific persons or of a role as warrior, priest or a leading person? Why at least four statues? Why is one nearly fully preserved while the others are intentionally destroyed? One intriguing observation, however, seems to be important: All the main features of the complete statue can be found in the material culture of grave 1 in Tumulus 1:

- The sword with a similar handle and a similar shape of the scabbard,
- The shield,
- A gold finger ring,
- A single arm ring (that is made of gold in the grave) and three additional bronze arm rings,
- A gold torc with 3 'extensions',
- And last, but not least, the remarkable, Micky Mouse style cap, which, in the grave, could be identified by the iron wire frame and the remains of leather and wood.

Unfortunately the remains of the other three statues are too badly preserved to be able to detect similar features – either similar to the first statue or similar to one of the other graves.

Models of centrality

The main questions of the *Fürstensitze* research programme, funded by the German Research Foundation DFG from 2004 to 2010 (http://fuerstensitze.de/) were:

- Was there a concentration of power and if so, were the *Fürstensitze* a result or maybe the source of this concentration of power?
- What was the reason for some sites becoming seemingly more important and powerful, or at least more wealthy?
- Did a concentration of power, of people or of wealth result in a process of urbanization?
- And last but not least: What was the effect of distance? What happened to settlements and societies in the close proximity to and at greater distance from the *Fürstensitze* during these processes?

Figure 2.6. *Life-size sandstone statue from a ditch at burial mound 1 from the* Glauberg *(photo P. Odvody).*

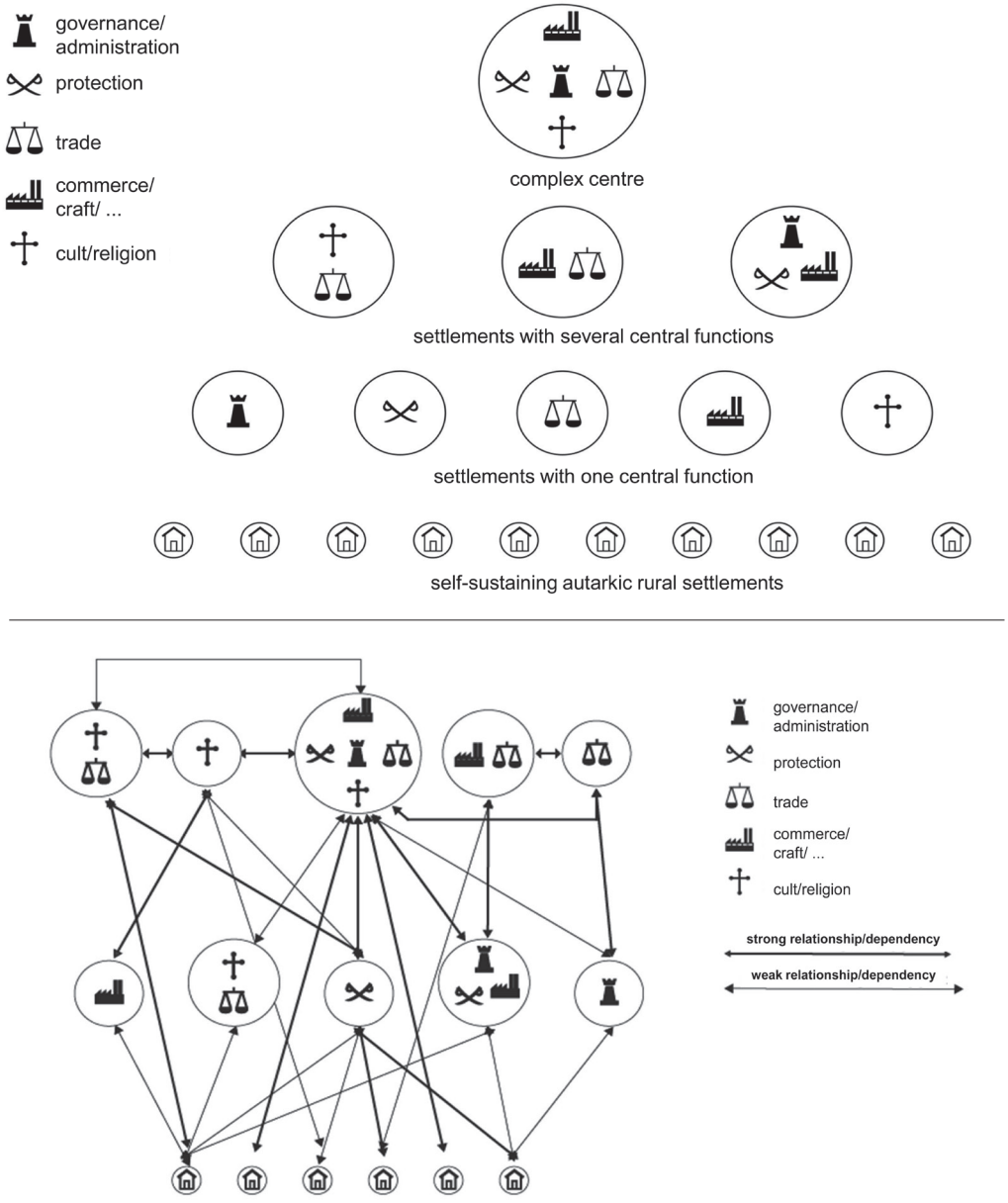


Figure 2.7. *Top: Model of a settlement hierarchy for the Early Iron age (based on a model for medieval societies by Gringmuth-Dallmer 1999). Bottom: Alternative hierarchical model taking into account the complexity of different Early Iron Age settlement sites.*

These main research aims and questions are strongly related to an understanding of a potential settlement hierarchy of the Early Iron Age and the role the *Fürstensitze* might then have played in such a system. Eike Gringmuth-Dallmer (Gringmuth-Dallmer 1999) described – influenced by Christaller's system of central places (Christaller 1933; Collis 1984) – a system drawn from the evidence of medieval societies and the kinds of functions that settlements could have had at that time. It is a model where we could see a *Princely Site* on the top of a pyramid while other settlements with lesser functions were inferior or even tributary to the major centre (Fig. 2.7, top). This very simplified image reminds us of the idealized representation of a city with all its different functions that are important for the neighbouring settlements of lesser importance.

The question, however, is: can we see such a system in the archaeological record and can such a system be transferred from the medieval and modern

Table 2.1. *Functions of Central Places and their appearance at Early Iron Age Fürstensitze.*

	Marienberg	Glauberg	Heuneburg	Ipf	Ehrenbürg	Breisach	Hohenasperg	Vladař
control	?	?	?	?	?	?	?	?
protection	X	X[1]	X	X	X	X	X	X
trade	?	?	X	?[2]	?[2]	X	0	?[3]
crafts	0	?[4]	X	0	X	X	0	?
cult & religion	0	X[5]	0	?[6]	0	0	0	0

1. Outer rampart/ditch for representation?
2. Mediterranean import?
3. Bronze figurine from northern Italy/eastern Alpine region?
4. Annex area
5. Potential calendar building
6. 'Herrenhof' Bugfeld?

periods to the Early Iron Age in Central Europe. On the one hand, there are strong doubts that it is possible, in general, to find archaeological traces of all the different functions in the settlements because of the limitations of archaeological methodology. On the other hand, even if we could find archaeological evidence for aspects like religion, administration and the like, it seems still too simple to reconstruct Iron Age settlement systems as a pyramid, when it seems far more likely that a network of places with different functions, with different meanings and with different relationships amongst each other and on an interregional level, describes the historical situation much better in the middle of the first millennium BC (Fig. 2.7, bottom).

If we simply list what we know about important functions, related to Central Places – or even Urban Centres – and their evidence at the respective sites, we can see that many of these functions are not verified (Table 2.1). This is, of course, no proof of their absence, but at least we should be suitably careful when building theories and interpretations on absence of evidence. Another important fact that one of the main criteria related to urbanism (control and administration) cannot be easily established in any of the places listed in Table 2.1. This might be due to methodological constraints, but still makes it difficult to use this criterion for developed interpretations.

The role of landscapes and environs

To overcome the methodological issues, it might make sense to look at the landscape settings in which the *Fürstensitze* have evolved, developed and finally declined. Is there any evidence for the specific meaning and the regional aspects or differences of these sites based on their environs? Is there more to these sites than the notability of specific finds or archaeological features if we also take into account features of the landscapes in which these *Fürstensitze* were embedded?

The *Fürstensitze und Umland* ('Princely Sites' and Environs) project mentioned above aimed to analyse these questions from an, archaeologically framed, landscape perspective, choosing a number of areas around most of the *Princely Sites*, as well as some regions without these extraordinary settlements. These project areas were situated in southern Germany (Baden-Württemberg, Bavaria and Hesse), the Alsace region and in western Bohemia, chosen for their differences in landscape and environment to allow for interregional comparisons (Posluschny 2007; Posluschny 2010; Posluschny 2012a).

The underlying basis of the analyses was the site management databases of the archaeological heritage management authorities as well as the main publications, compiling a total of approximately 5800 settlement and 7700 burial sites from the Late Bronze Age Urnfield period, the Early Iron Age Hallstatt and the Early Iron Age Early La Tène period.

A main prerequisite of the analysis is the idea that human behaviour was influenced in part by the natural environment and that this behaviour – like for instance the decision where to settle – left recognisable and interpretable patterns in the landscape. The combination of different environmental preferences might give a hint about the role of economic needs, settlement history and environmental behaviour of the prehistoric societies, especially when choosing a settlement site, also shedding light on potential economic gain as a possible source of wealth or even influence and power (Posluschny 2007).

Visibility and prominence

The viewshed from the *Heuneburg* (Fig. 2.8, above), as well as from the nearby hill top settlement on *Mount Bussen* (Fig. 2.8, below), was calculated drawing on Kimmig's idea of the *Fürstensitz* as a prominent site with a high degree of outward and inward visibility. It became evident that the viewshed from *Mount Bussen* is

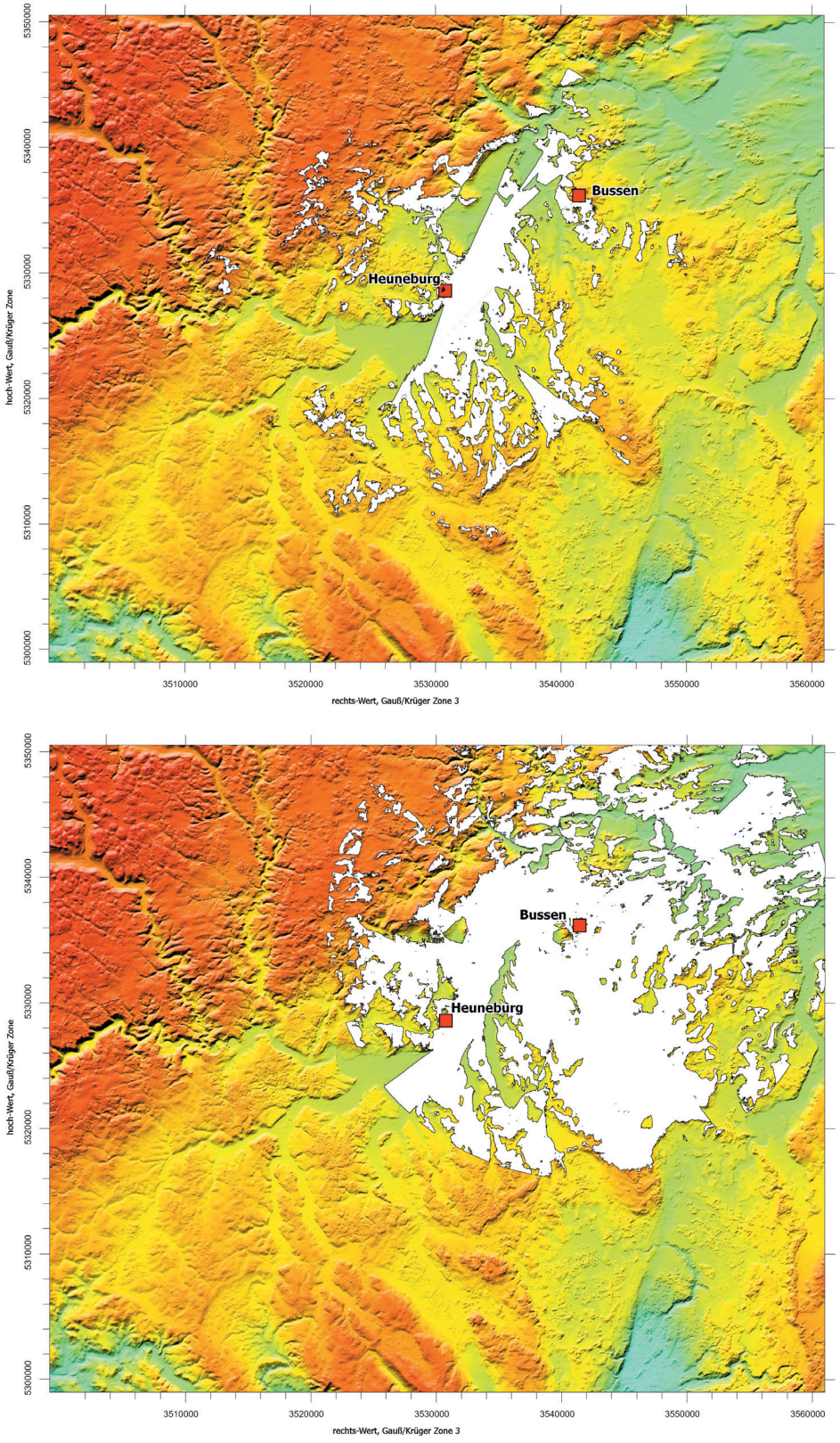


Figure 2.8. *20-km viewsheds from the* Heuneburg *(left) and the nearby* Mount Bussen *(right). Based on the 25-m resolution DGM50/M745 (courtesy Bundesamt für Kartographie und Geodäsie 2004).*

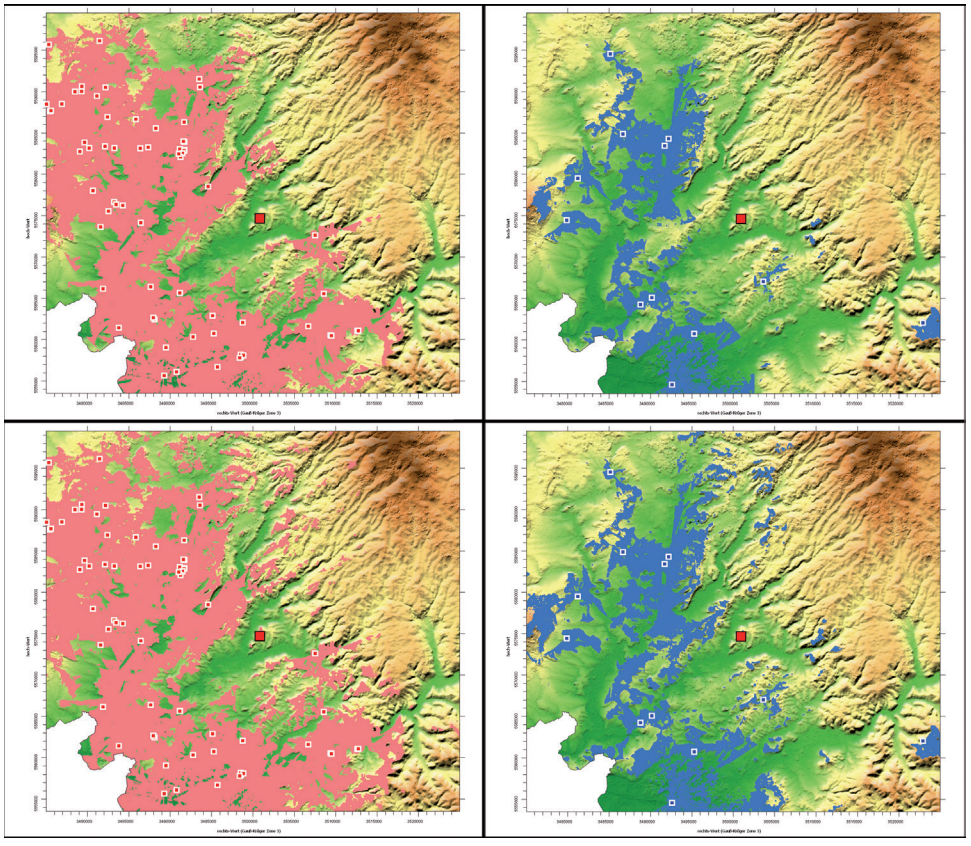


Figure 2.9. *Viewsheds of the Hallstatt settlements (left) and Early La Tène settlements in the area around the* Glauberg. *The* Glauberg *is marked in red. Top: 10-km visibility; bottom: 20-km visibility. Based on the 25-m resolution DGM50/M745 (courtesy Bundesamt für Kartographie und Geodäsie 2004).*

much more far-reaching and covers a much wider area. The landscape is much better seen (and controlled) from the Bussen hilltop than from the *Heuneburg*, where the main focus is on the river Danube (which was most likely navigable downstream from here in the Early Iron Age). Correspondingly, the site on the *Bussen* is also more easily seen from the surrounding landscape than from the *Heuneburg*. From this analysis, microregional factors prevail, namely the access to and control of the river, responding to its capacity as a trading and information route, factors that were of greater importance than the (visual) control of the whole surrounding landscape.

The *Glauberg* is another site with an allegedly prominent location. One might argue that the site itself, on one of the mountains situated between the fertile loess regions of the Wetterau area and the foothills of the Vogelsberg massif, is prominent enough to work as a landmark, a feature in the landscape which assists orientation in approach and therefore as a trading post or market place.

The cumulative viewshed, calculated from all known settlement sites of the Hallstatt period, the transitional Hallstatt/Early La Tène period and the Early La Tène period, calculated both with a maximum view of 10 and 20 km (Fig. 2.9) shows that the visibility of the *Glauberg* from its contemporary settlements is near to Zero and it becomes obvious that the *Glauberg* was not a place visible from afar within its inhabited landscape, at least not for the people who lived there at the time when the *Glauberg* had its importance as a *Princely Site*. Of course, when approaching the *Glauberg* from the very close vicinity it looks impressive and prominent, but this prominence depends on distance and scale.

Routes, reachability and trade

One reason for the economic wealth and maybe political and social power of the *Fürstensitze* might have been the placing of the settlements in a position favourable to long distance traffic and trading routes. We know from the finds of the *Glauberg* settlement and its graves that there were connections between the people living here and people in the uplands to the north and

to the Hunsrück region in the southwest. There were connections even reaching far further east to Bohemia. However, was the *Glauberg* situated in a way such that it was an ideal stopping point, as a distribution or market place?

Standard least cost path analyses (based solely on the slope as cost, connecting areas of the distribution of a specific kind of decorated pottery) indicated that the *Glauberg* is not situated on one of the modelled optimal routes (Fig. 2.10). Such an analysis, based on least cost, is at variance with the traditional understanding of ancient routes and roads (Loewe 1956; Baitinger 2008; for the methods see Posluschny 2012b) which can be summarized as follows:

1 Ancient roads show immense continuity (from the Neolithic until the Iron Age or even the Roman Period, perhaps even into the modern period). Ancient routes can, therefore, be projected back from the modern.
2 Ancient roads always run along the crests of hills and mountains to avoid crossing streams and rivers and difficult ground such as swamps and wetlands in the river floodplain.
3 Prehistoric routes follow the lines of prehistoric grave mounds (or attracted the construction of mounds).

There is much evidence that these points might have played a role in certain periods, in specific areas and for specific purposes of travel. However, it is far too simple to build one model simply on these principles, especially when the argument forms a vicious circle, and when other analyses have shown that the *Glauberg* was not necessarily situated next to a main traffic route.

One main argument posed for the use of hilltop paths has been the avoidance of swampy areas in the floodplain of rivers, which would have been the main flat area available for crossing the landscape. As a counter to this argument, there is a very clear evidence for

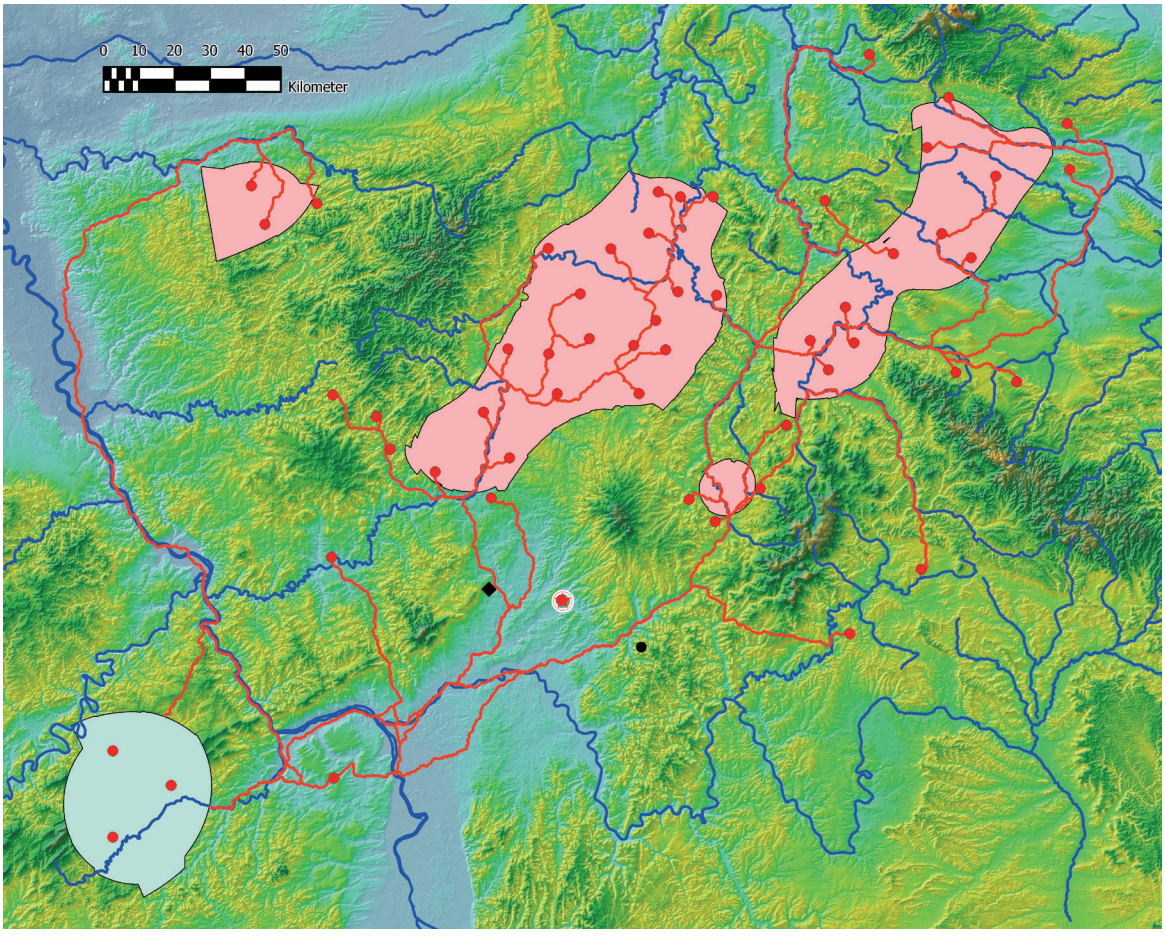


Figure 2.10. *Slope based least cost path model of possible routes connecting sites with line-decorated pottery, also found on the* Glauberg. *Based on the 25-m resolution DGM25 (courtesy Bundesamt für Kartographie und Geodäsie 2004).*

the use of bridges, crossing these very same swampy areas, starting in at least in the Bronze Age and continuing in the Iron Age. Beyond the use of the waterways themselves as a means of transport, the construction of roads along rivers has been identified, supported by the construction of different kinds of bridges (Jud 2002; Schussmann 2003; Meiborg et al. 2013), even in prehistoric periods, where no central power was likely to be in charge of planning and maintenance. The long-term use of routeways tends to overcome the friction provided by the cost surface of the landscape, differing from more short-term movement of people which might have responded more readily to such factors.

In summary, we can, of course, find roads along hillcrests, used for specific purposes and at specific times, but we also find them on slopes and in the plains. The mere existence of a road does not make a particular place an ideal market or trading point, as, of course, roads, paths or routes would have interconnected all settlements. This is a question of causality. Did the roads emerge to connect existing sites, or did sites develop because of the existence of specific roads? Both options are equally possible and both might have occurred in the past. However, for a place like the *Glauberg* with a very special meaning, at least at a regional level, it is clear that routes that connected this place to other sites (settlements, burial sites, sites of a religious meaning, other sites with central meaning, …) could have developed because of the *Glauberg*'s meaning rather than through its role in a settlement hierarchy.

Beyond the secular

If it were not for reasons of trade organization, what made the place of the *Glauberg* so special? Is there a single explanation that fits other similar places as well?

An important feature of the *princely site* of the *Glauberg* is the ditch-rampart system surrounding the plateau with the main settlement, incorporating an area of about 180–250 hectares. On the one hand, the layout of this surrounding ditch system incorporates the rich burial mound within the settlement area and places within the sphere of the living (Fig. 2.11, a). On the other hand, the ditch rampart also excludes the burial mound as well, placing it *extra muros* (which is the usual location of burial sites in that period) within the sphere of the dead (Fig. 2.11, b). In that sense, the rampart/ditch system exhibits a double use and perception, both of space and of its borders and it gives the burial mound an even greater meaning as a mediator between two different components of society: everyday life and religion (which most probably would not have been so clearly demarcated in prehistoric societies, as is usually the case in the West today).

It seems important also to mention that the enclosed area is incomplete and thus rather permeable, and the system (though with a 5 m deep ditch of some 18 m width and a rampart of similar dimensions) could by no means have served as a fortification. Moreover, the rampart/ditch system consists of several sections which might not have been constructed at the same

Figure 2.11. *Location of the* Princely *grave on the* Glauberg*: a) Sphere of the living; b) Sphere of the dead.*

time, so it might be possible, that these component parts of the surrounding enclosure might have been dug and erected as some kind of social activity where people from surrounding villages and communities came together at specific dates to work together and to celebrate with feeding and feasting activities to strengthen a corporate feeling of the society that belonged to the sphere of the *Glauberg*.

This idea of seasonal meetings, with social activities, collective working, feeding and feasting, combined with the burial mound (and the persons buried inside) as mediator between different worlds, might relate to a number of extraordinary features that have been discovered during the excavation of the burial mound. A number of ditches and posts surrounded the mound as part of a complicated and well-constructed system which could probably be interpreted as a calendrical structure, enabling people to measure time – seasons and also longer periods, since it is related to the Southern Moon Standstill which occurs every 18.6 years (Deiss 2008). Counting time might then have been the structuring element for the collective activities of the society that belonged to the *Glauberg*, for feeding and feasting and out of respect to the person we now know as the *Keltenfürst* (*Celtic Prince*) from the *Glauberg* (mainly because of a lack of a more precise description).

The knowledge of one or more persons related to the reading of time might have been the reason for the significance of the site and it might have been significant for people from far away, even further than the direct hinterland of the settlement. The construction of such a complex mathematical and astronomical system can only be done with a certain degree of knowledge that is based on the work of generations of people with a specific role within the society. The knowledge, especially the knowledge of time, as is visible in a calendrical structure, is something that might be a source of the power of the Place. Someone who had this knowledge and lived and worked on the *Glauberg* might have underwritten the central role of the whole *Glauberg* settlement, even extending their influence to a wider hinterland.

Centrality and central meaning

The *Princely Sites* could not have functioned without their environs or their hinterland. However, such a surrounding area of interest or influence may not have been simply economic. Such an area, at least for a *Fürstensitz* may have been defined in a somewhat more perceptional manner. Most of the burial mounds in the vicinity of the *Glauberg* – though most of them are not yet dated – do lie more or less exactly at the border of the visible zone around the *Fürstensitz*, demarcating the area that is under visual control from the *Glauberg*. In this case, we do not see an economically defined hinterland, but an area that is marked by the graves of the ancestors.

The economy was, nevertheless, important; within a society based on agriculture, the relationship between consumer and producer sites was of considerable importance (Posluschny et al. 2012). Did the *Princely Sites* depend on the support of the surrounding settlements? Or did they have a larger potential agricultural yield than the 'regular' settlements and did they offer supplies to the surrounding villages? When we look at the economic features of the hinterland regions, it is, first of all, interesting to see what the hinterland areas (e.g. within 60 minutes walking distance) tell us about the site itself, by comparing the *Fürstensitz* to the other settlements. The diagram (Fig. 2.12) shows that the median values of the size of the 'hinterlands' of all the regular settlements within each of my areas of research, do not differ so much compared with the differences between the territories of the 'central places'. In general, the hinterland areas of the regular settlements are more or less comparable, whilst the *Fürstensitze* and other important places obviously did differ much more on a regional scale, depending on the size of their surrounding landscapes.

Within the area of the Nördlinger Ries, occupied by the *Fürstensitz Ipf* and the two ditch enclosures of *Osterholz*, we can see the biggest spread between the mean value of the territories of the regular settlements and those of the central places. Only the fortified hillfort of the *Goldberg* in this area appears to have a territory much more like the regular settlements. Within these surrounding areas, the *Ipf* itself has the largest share of soil with low suitability for plant cultivation in its territory, as well as the smallest share of high quality soils. In contrast, the availability of good or at least medium soils is much greater around the ditch enclosures of *Osterholz*, which compensates for their smaller territories. The *Goldberg* site with its large hinterland area had a relatively high percentage of good soils as well.

Knowing that the people in late Iron Age times made their living mainly by crop farming and cattle raising means that the large hinterland areas where the mean values of size are more or less the same as the value of the hinterland size of the 'special settlement' itself are an indication of a mainly agricultural based way of living of the people of the 'Central Place'. We can make this assumption for the *Goldberg*, while the *Fürstensitz* on the *Ipf* itself as well as the ditch enclosures of *Osterholz* on his foothills seem to have played a different role in the settlement system.

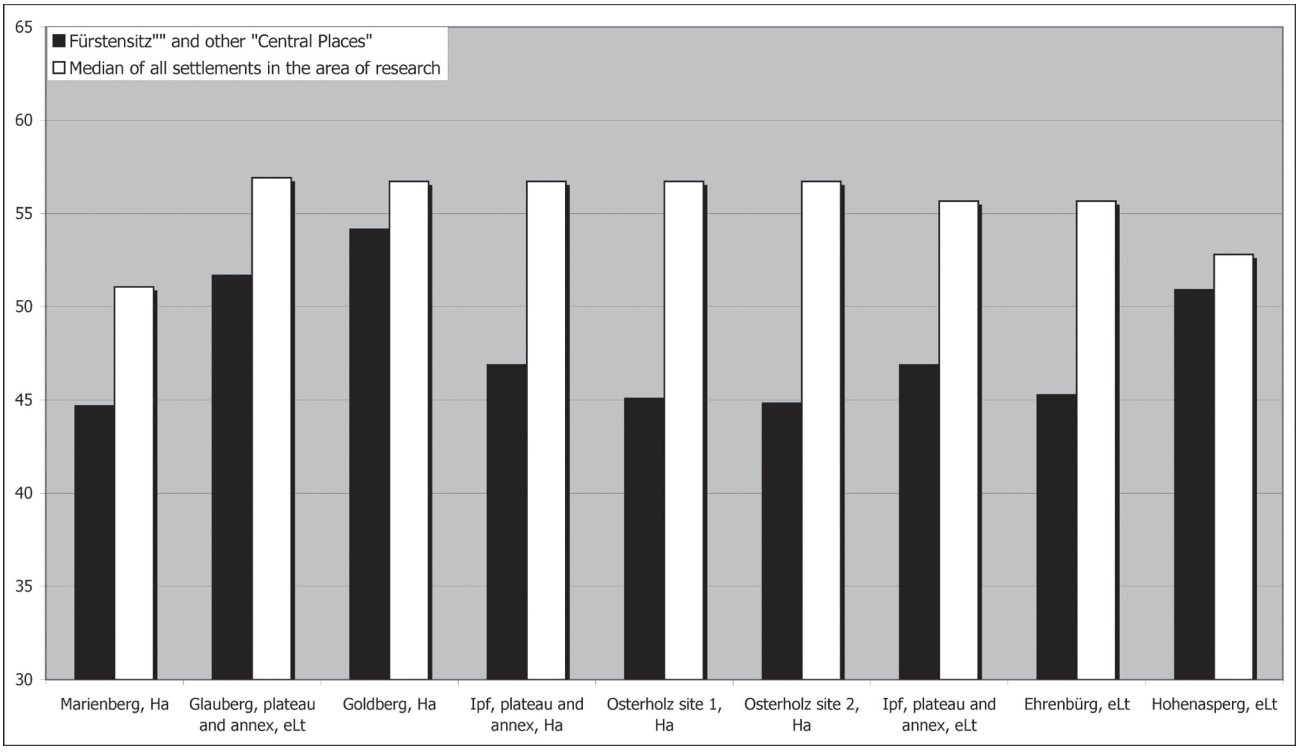


Figure 2.12. *Sizes of the catchment areas that are reachable on foot within a one hour from a settlement. Black: Catchment area (in sq. km) of the* princely *and other special sites; white: Median value of all catchment areas (in sq. km) around the* princely *and other special sites.*

The *Ipf* is more or less a landmark in both a cultural/ritual way and in an economic way as part of a traffic and trading system, whereas we have some still very weak evidence that at least one of the *Osterholz* ditch enclosures might have been a place with a ritual meaning (Krausse 2014).

Settlement densities and site distributions

Prehistoric people made their decisions of where to settle most probably based on their agricultural or economic needs and on the availability of resources in the vicinity of a site. A very dense site distribution would therefore show that the main factors for successful economic activities have been met, whilst gaps might show a lack of one or more basic resources.

In the area of the *Fürstensitz Marienberg*, the density of population can be calculated in three periods (for the method see: Zimmermann et al. 2009): the Urnfield, the Hallstatt and the early La Tène. In Urnfield period, the highest density (73 per cent), focused on two zones, was concentrated 2 km from the settlement. In the following Hallstatt period, the highest density (83 per cent) was concentrated 2.5 km from the settlement, showing that there was not only settlement continuity, but new areas were colonized further from the settlement (Fig. 2.13). During both these periods, the *Fürstensitz* of the *Marienberg* was never focus of a densely populated area which was placed at an increasing distance from the settlement, reaching 4 km in early La Tène.

In the *Glauberg* region, large areas were not even settled (Fig. 2.14). The number of settlements from the Urnfield period is, in fact, larger than from the Hallstatt period, but the populated zones are very comparable – so that we can detect a decreased density rather than movement of settlement. Once again the *Fürstensitz* is located at the periphery of settlement density, indeed in an area of low population. One very obvious reason for the small number of settlements here seems to be either rather poor soil quality or steep slopes similarly unsuitable for agriculture. Clearly, a combination of different environmental factors – most of them connected to agricultural production – determined the choice of settlement location. Hinterlands are the basis for the economy – and where the environmental factors did not match the needs of the people, differences in the settlement densities did occur. The wealth and power of the *Fürstensitze* were not the determining factor, but issues of agricultural suitability.

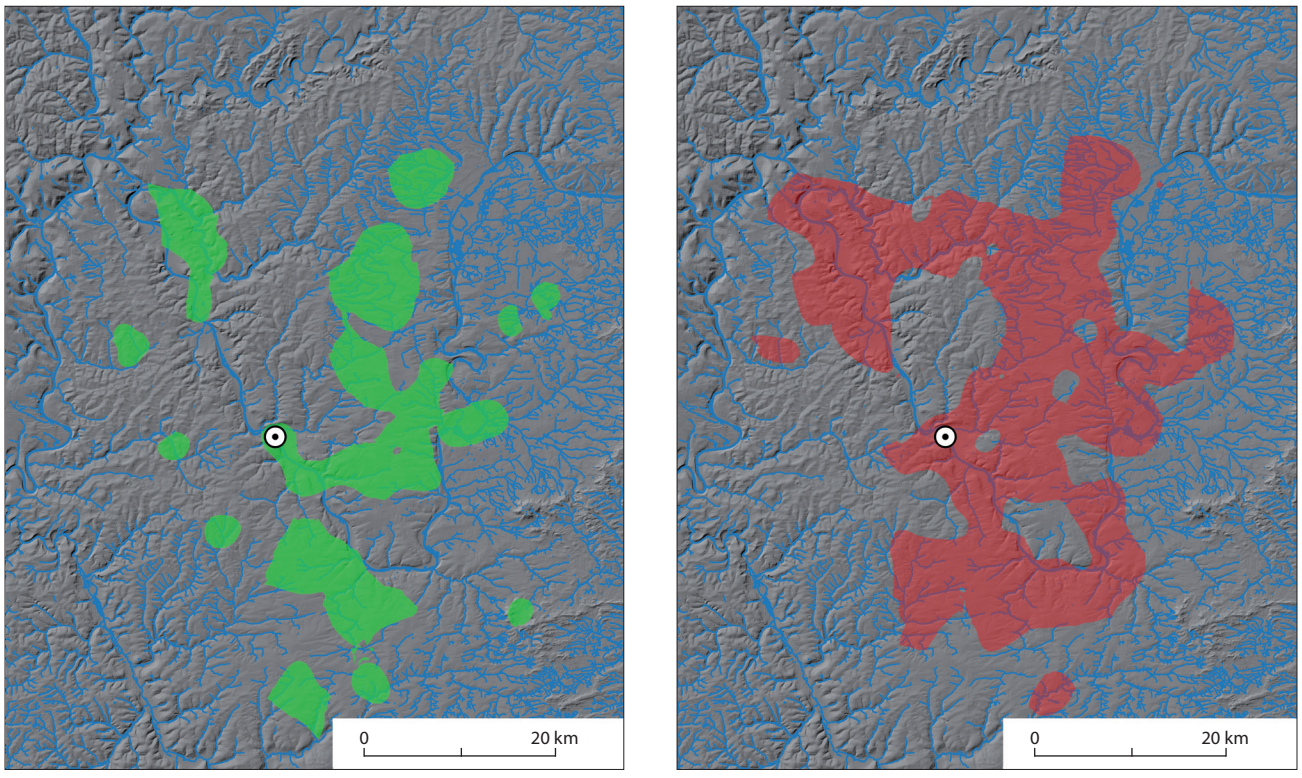


Figure 2.13. *Core settlement areas of the* Marienberg *surrounding in the Urnfield period (GREEN) and the Hallstatt period (RED), based on the Largest-Empty-Circle approach. This technique defines the area of typical settlement density in the landscape and thus core settlement areas (for a full explanation see Zimmermann et al. 2009).*

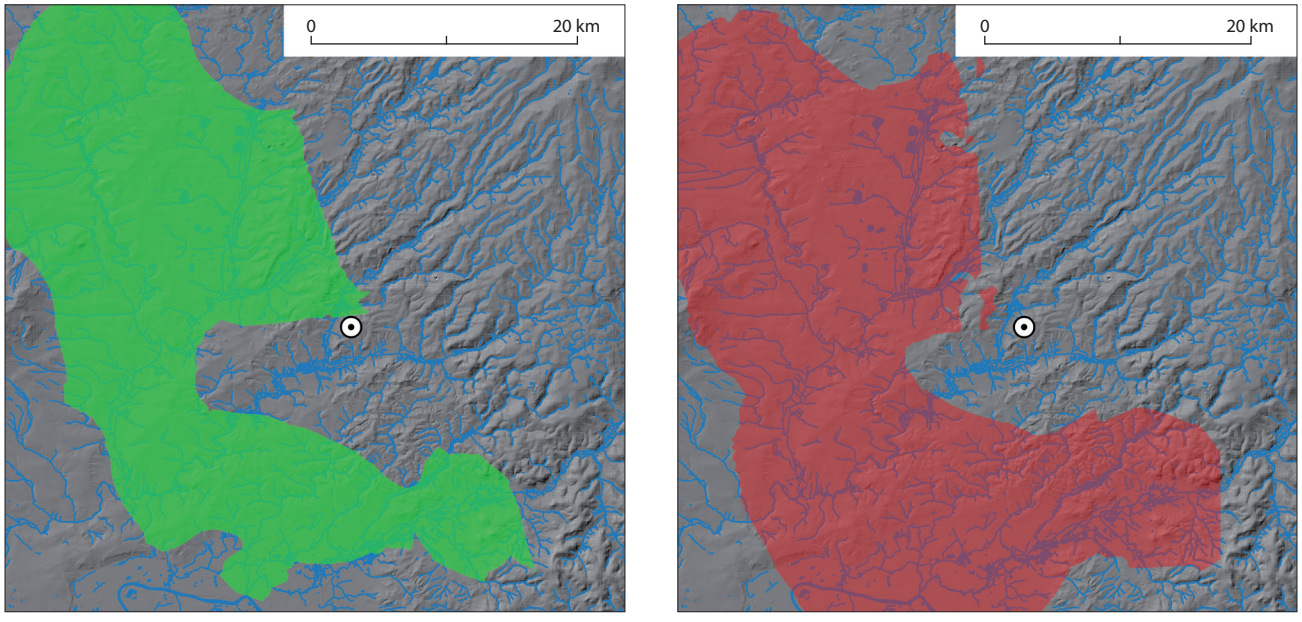
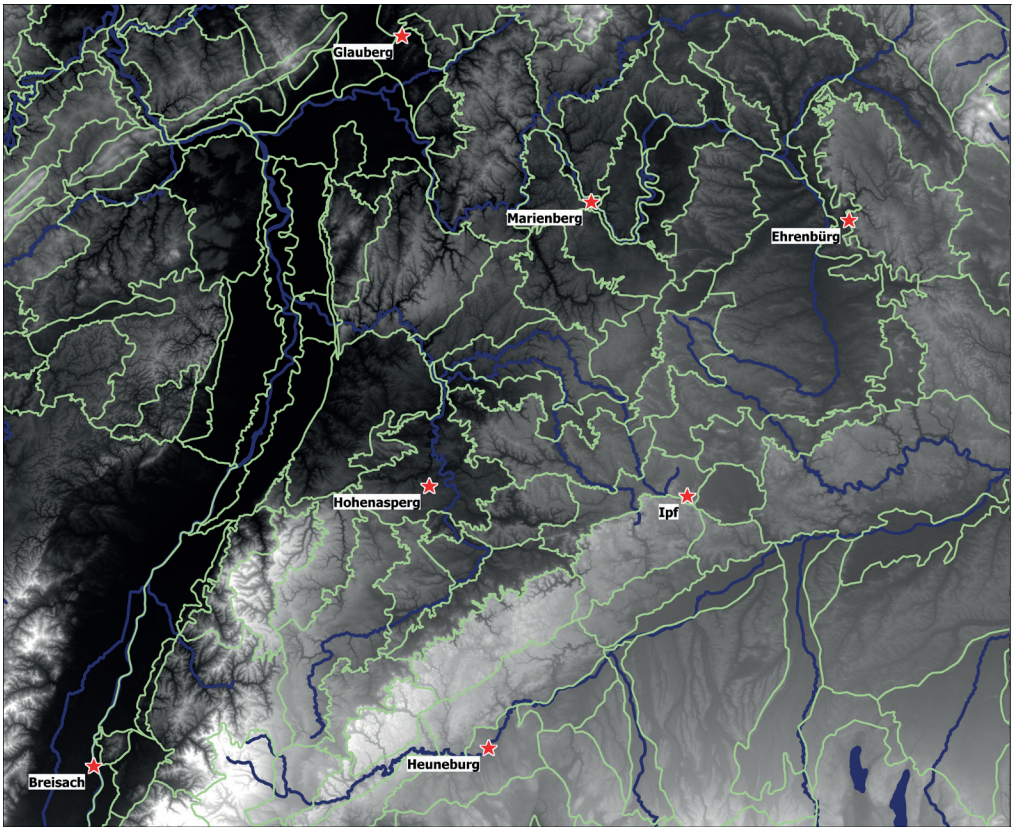


Figure 2.14. *Core settlement areas of the* Glauberg *environs in the Urnfield period (GREEN) and the Hallstatt period (RED), based on the Largest-Empty-Circle approach. This technique defines the area of typical settlement density in the landscape and thus core settlement areas (for a full explanation see Zimmermann et al. 2009).*

Concluding summary

The central meaning that the *Princely Sites* played in their time and their territories might have resulted in a central position of these sites within the landscape. The problem is that we have very little knowledge of the precise territories that might have belonged to a *Fürstensitz*. We do not know how large they were, or on what reasoning their layout was based and we do not even know if there was something like a political territory for each *Princely Site*.

For the later Iron Age, the era of the large late Iron Age *oppida* which Caesar and others have described, we know from the work of Peter Jud (Jud 2000) that at least in the area of the Upper Rhine Valley between Baden-Württemberg and Switzerland, military control was handled from places near the border of territories and of larger regions, whereas the settlement with a



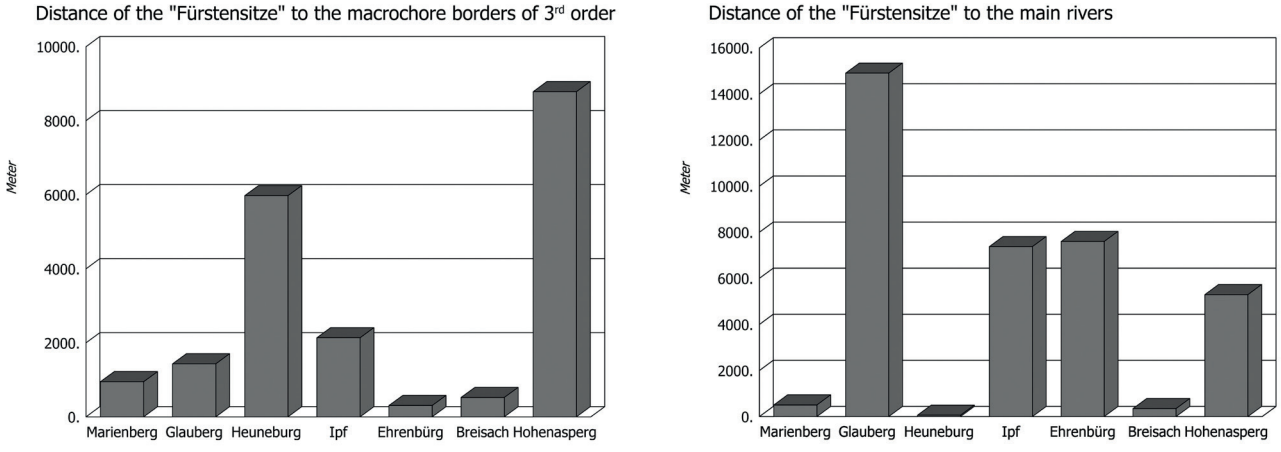


Figure 2.15. *Early* Celtic *style* Fürstensitze *and their relation to the borders of larger regions and major rivers.*

central socially constructed meaning was not clearly visible as such in the archaeological record. The 'centre of power' of a society which does not have a permanent administration (which is clearly the case for the Late Iron Age and even more so for the Early Iron Age) is usually situated at the living place of the ruling person(s) (Jud 2000, 116). A tribe, or a society in general and its territory was controlled from the ruling person's or group's home village or even farmstead, which was not necessarily a large *oppidum* or in the case of the Early Iron Age a *Princely Site*

Border situations can be defined in different ways. There might be political, cultural or ethnic borders, there are also borders to larger scale regions that are based on the natural environment – in some cases these different borders might be the same, while, in other cases, they might have been totally different. The *Princely Sites* in southern Germany are always placed close to the borders of landscape units or to larger rivers – which also might have functioned as borders or at least as separators or as zones of passage (Fig. 2.15). I would like to interpret this as a hint that the *Fürstensitze* might have had a central meaning, but not a central position within their landscape. Theirs was the position close to borders or to a passage that was important, be it for trading purposes or for other reasons.

Natural borders are more or less static through time, while the settlement dynamics from the Late Bronze to the Early Iron Age reflect changing social or political as well as cultural borders so that, at least in prehistoric periods, environmentally based regions are not the same as political territories. The map shows the temporal dynamic of settlements in different regions within different landscapes and with very different levels of settlement density from the three different phases of the Late Bronze Age (Urnfield Culture), Early Iron Age Hallstatt Period and Early Iron Age Early La Tène Period (Fig. 2.16).

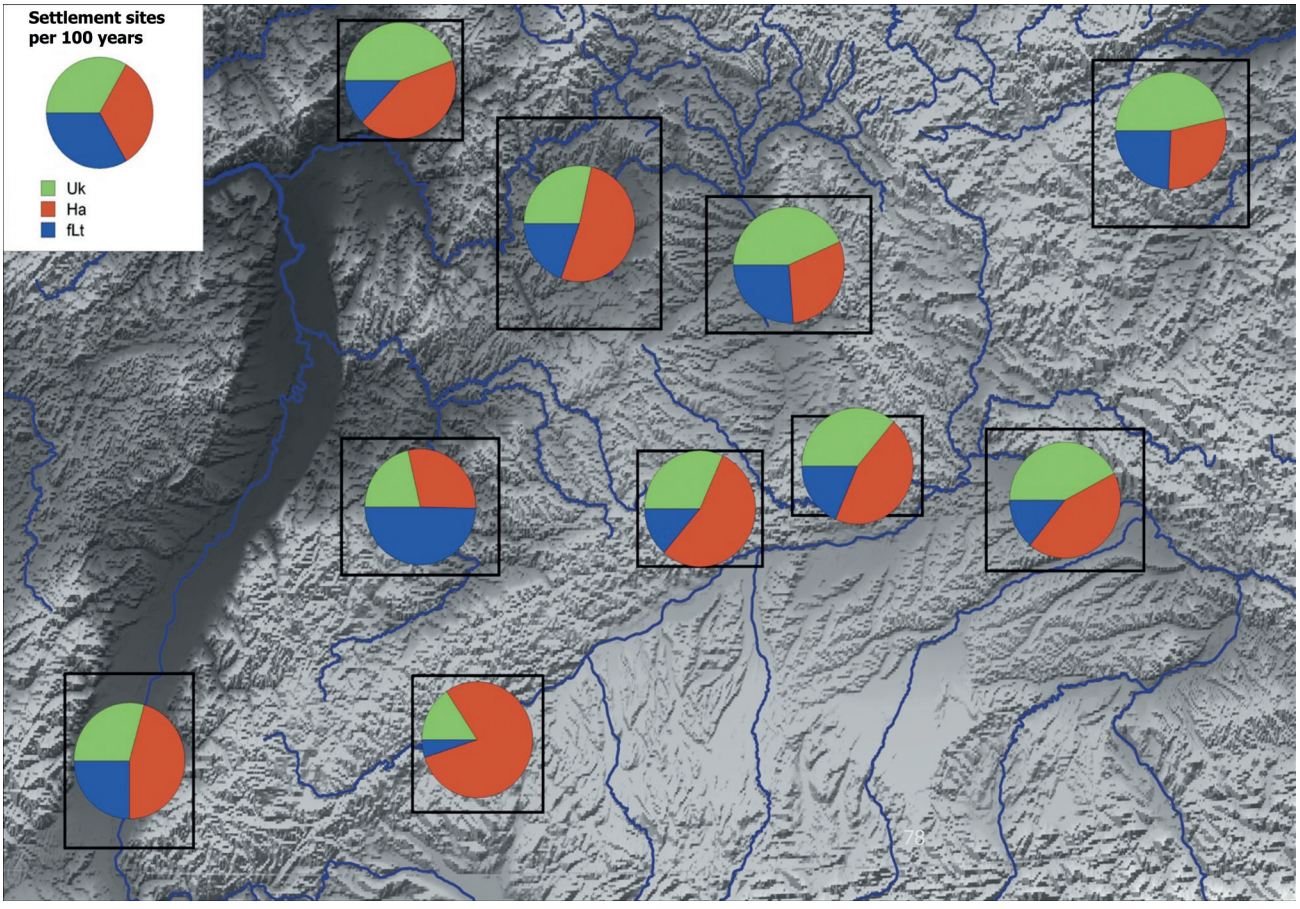


Figure 2.16. *Share of settlement sites per 100 years for the Late Bronze Age (green: Uk; Urnfield Culture), the Early Iron Age Hallstatt (red: Ha) and the Early Iron Age Early La Tène period (blue: fLt). In other words each diagram shows the share of Uk, Ha and fLt settlements in each research area, normalized for time, since the Uk, Ha and fLt are periods of different length.*

The maps shows very clearly the varied demographic dynamics of what was going on in the first millennium BC in southern Germany. Related to the questions of centralization processes and of patterns of social development, we now know that the situation during the Hallstatt and Early La Tène Period is much more complex than we thought it to be, when our ideas were driven by the simple model that Wolfgang Kimmig presented in 1969.

Do we really see an early urbanization in the *Fürstensitz* phenomenon just because some places seem to become larger or richer and seem to achieve a more elaborate structure for at least a while (Krausse et al. 2015)? This, in the end, pretty much depends on the definition of the term urbanization, making this probably a not very well-suited tool to describe the dynamics and developments of different and differing sites embedded in different landscapes.

Six years of research of several projects working together in the *Fürstensitze* research programme have brought together new insights and a new evaluation of the role of those special hillforts. The more or less simple hierarchical model of Kimmig and others has changed into the understanding that we cannot lump the *Princely Sites* together. Every site might have had a different basis for its growth and importance: be it trade and the exploitation of resources in one, be it a surplus agricultural economy in another or be it its role as a centre for cult and religion in a third – or perhaps a combination of more than one differently weighted factor in all of them.

All the sub-projects of the DFG research programme have collectively created a much more differentiated picture of the *Fürstensitze*. We have no single cause for the centralization process (not to mention the term 'urbanization') and we still do not have answers to all the questions concerning those *Princely Sites* – but maybe that would have been asking too much?

Acknowledgements

This paper is mainly based on the work of the project 'Princely Sites and Environs' (Posluschny 2010) that was part of the larger research programme on the so-called 'Celtic Princely Sites' (Krausse & Beilharz 2010), funded by German Research Foundation (DFG) between 2004 and 2010 (http:///www.fuerstensitze.de). A comprehensive list of Glauberg publications can be found here: https://www.zotero.org/groups/2056567/.

Chapter 3

Urbanism of the *oppida*: a case study from Bavaria

Caroline von Nicolai (Munich)

Archaeological criteria for urbanism

The *oppida* were an essential part of the Late Iron Age settlement system in Temperate Europe. Since 1984, when John Collis published his study 'Oppida: Earliest towns north of the Alps' (Collis 1984), archaeologists have gradually acknowledged that these settlements can be considered urban. Nowadays, even some Early Iron Age settlements like *Heuneburg* or *Bourges* are classified as urban (Fernández-Götz & Krausse 2013, 483–5; Fernández-Götz 2014b, 158). Today, many scholars equate the *oppida* with the term 'town' (Fichtl 2000). However, the question arises whether this equation is always correct. Based on a case study from Bavaria, this paper examines which of the late Iron Age sites in Temperate Europe that are generally called *oppida* can really be considered urban.

Many archaeologists have developed criteria to define cities and to distinguish these from non-urban settlements. However, only those definitions and criteria that are considered useful for the purpose of this article will be briefly presented. According to Michael E. Smith, urban settlements are 'centres whose activities and institutions – whether economic, administrative or religious – affect a larger hinterland' (Smith 2007, 4). For Manuel Fernández-Götz and Dirk Krausse, an urban settlement is a 'numerically significant aggregation of people permanently living together in a settlement that fulfils central place functions for a wider territory' (Fernández-Götz & Krausse 2013, 480). Axel Christophersen considers 'urbanism' as 'the way of life developed in dense urban communities', whereas 'urbanization' is 'the process whereby towns are established' (Christophersen 2015, 113). To identify settlements that fulfil these characteristics, the German Archaeological Institute uses five major criteria in its model of urbanization: (1) the persistence of settlement activities; (2) the level of social and political interaction and communication which can be observed via the presence of communal structures, such as public open spaces for assemblies, markets, religious activities, as well as via communal building activities, for instance the building of a rampart or temples; (3) the building density; (4) the functional and structural variety of building structures; (5) the quantity and diversity of finds indicating craft and trade activities (Wendling 2013, 461–2). For the late Iron Age, in Temperate Europe, these finds include Roman imports such as metal vessels, amphorae, coins, or Hellenistic black-glazed pottery from Campania or Etruria; imports from the Alps such as fibulae or ceramics of the *Fritzens-Sanzeno* type; as well as coins, jet and amber objects. Michael E. Smith uses a series of archaeological 'urban attributes' to understand both the degree of urban development and the nature of urban processes. These include (6) the settlement size, i.e. the population, the area covered and the settlement density; (7) the social impact (urban functions), i.e. the presence of high élite burials, of large (high-order) temples, of civic architecture, of craft production, markets or shops; (8) the built environment, i.e. the existence of fortifications and gates, of a connective infrastructure, of intermediate-order temples, of residences of a lower élite, of formal public space, and the planning of an epicentre; (9) the presence of social and economic features, such as social diversification, of lower élite burials, neighbourhoods, imports and the practice of agriculture within the settlement (Smith 2017, 158–61). For the Late Iron Age, it seems also useful to evaluate five more criteria, viz. (10) the strategic location of the settlement relative to important trade routes; (11) an earlier occupation of the site during the Hallstatt and early La Tène period; (12) the existence of a planned urban layout; (13) the exploitation of raw materials such as iron ore or graphite in the surroundings of the settlement; (14) the practice of administrative and

political functions, indicated in the archaeological record by coin minting and writing. The potential urban character of the *oppida* and of other settlements in Bavaria will be studied below using these 14 criteria.

The *oppida* and unfortified 'centres of production and distribution' in Bavaria

Six fortified sites in the modern federal state of Bavaria are generally considered *oppida* (Fig. 3.1): *Manching* (district of Pfaffenhofen an der Ilm, Upper Bavaria), *Kelheim* (district of Bavaria, Lower Bavaria), *Staffelberg* (district of Lichtenfels, Upper Franconia), *Schwanberg* (district of Kitzingen, Upper Franconia), *Fentbachschanze* (district of Miesbach, Upper Bavaria) and *Leonberg* (district of Altötting, Upper Bavaria).

The *oppidum* of *Manching* is a key site of the European Iron Age and one of the biggest known *oppida*, with a total surface of 380 ha (Fig. 3.2). The site is situated on a low-lying gravel terrace, about 10 km south of the modern course of the Danube. In ancient times, an old river bed formed a natural river harbour. Together with other routes, the waterway offered an outstanding economic opportunity, enabling the formation of a node along important ancient trans-European routeways. The vicinity of iron ore sources in the wetlands south of *Manching* probably played a major role in the development of the settlement. The site was already settled in the late Hallstatt/early La Tène period. Geophysical survey revealed a *Herrenhof* (a 'chief's estate') with a double or even triple ditch system close to the eastern rampart. Two cemeteries with rich inventories of weaponry and jewellery indicate settlement activities during La Tène B and La Tène C1, but the corresponding settlements are so far unknown. However, these must have been the origin of the emergent unfortified settlement that developed as a synoicism in La Tène C2 (Wendling 2013, 464–6). A multiple phase temple was located at almost the exact centre of the later town (Sievers 2010, 90–8; Eller et al. 2012, 310). The settlement space was already densely occupied at the transition of La Tène C1 – La Tène C2 (around 200 BC), showing a multitude of house forms: from narrow, elongated constructions

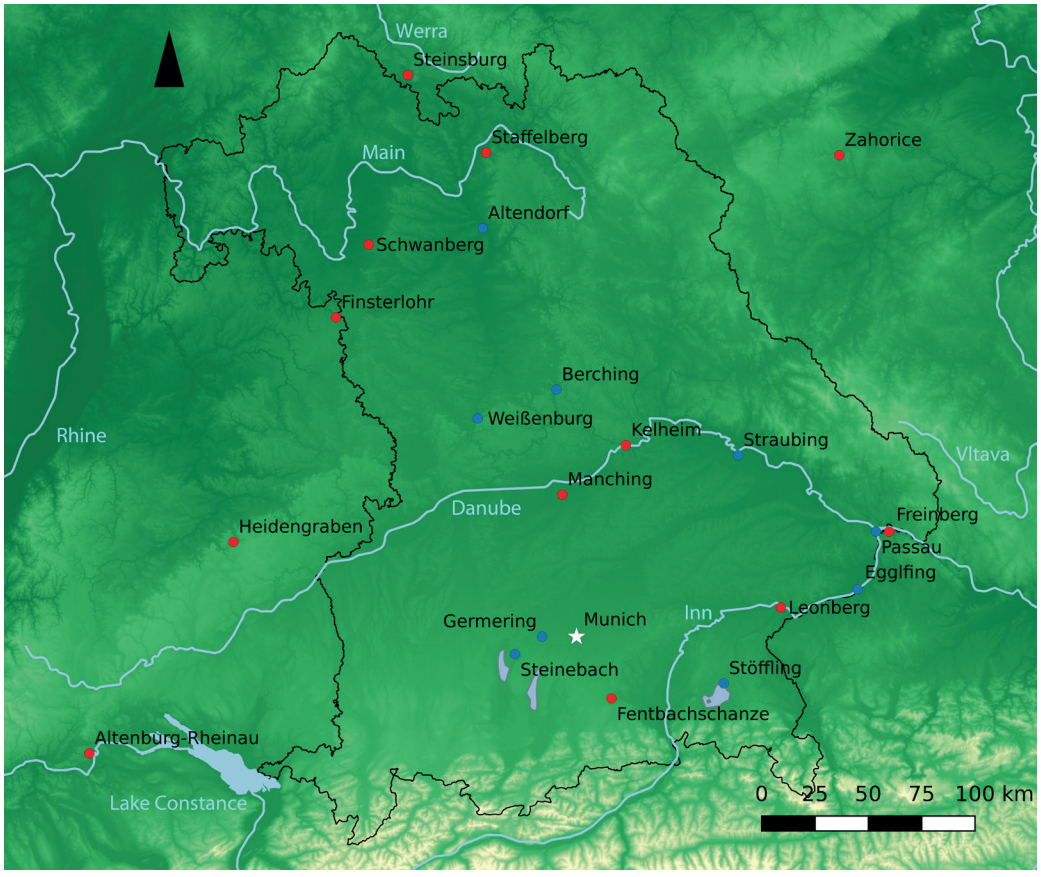


Figure 3.1. Oppida *and open agglomerations in the modern federal state of Bavaria studied in this paper. Red: supposed* oppida *with fortifications. Blue: unfortified agglomerations, probably centres of production and distribution (Author).*

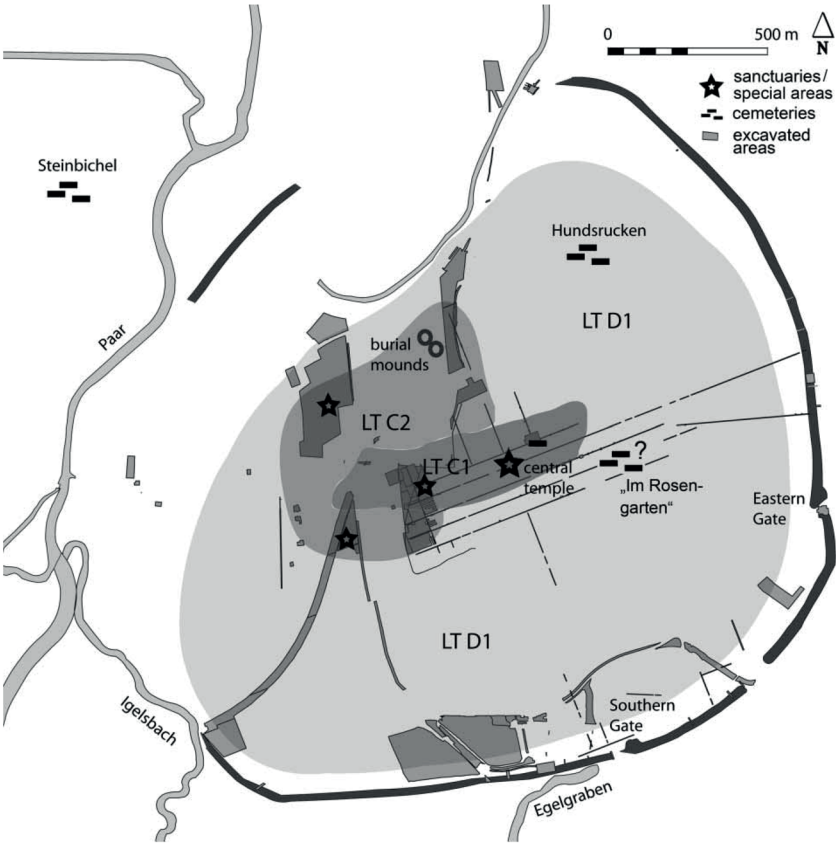


Figure 3.2. Manching*: schematic plan of archaeological sites and features, excavated areas, and settlement expansion from LT C1 to LT D1 (Wendling 2013, fig. 1).*

to small economic and storage facilities at one end of the range and to monumental residences at the other. This variability in building size and form is a good indicator of functional and social diversity. Moreover, at *Manching*, infrastructural amenities, such as wells or a complex street grid, were already built at a very early stage (Eller et al. 2012, 311–12; Wendling 2013, 475–6). Long-distance trade, mineral resources and specialized production such as wheel-turned pottery, copper and iron working, glass working, also played a major role in the development of the *oppidum*, as early as La Tène B2 (Gebhard 1989, 181–5; Wendling 2013, 470–3). The rampart that made *Manching* a true *oppidum* was erected around 140 to 120 BC, during La Tène D1 (van Endert 1987, 90–1; Sievers 2007, 104–11). The construction of the wall coincided with a distinct reorganization of the internal settlement layout. The occupation as well as trade and craft activities intensified after the erection of the wall (Wendling 2013, 480–1). However, after a short apogée in the first half of the first century BC, signs of economic and structural decline increasingly emerged, around 80–70 BC (La Tène D1b), when the major influx of southern imports ceased and a reduction of metal supply can be observed. The density and size of dwellings diminished until only a relatively sparse occupation was visible in the archaeological record. The organized layout of the town broke down. Finally, towards the mid first century BC, the settlement was abandoned (Sievers 2007, 135–42).

The *oppidum* of *Kelheim* is located at the confluence of the rivers Danube and Altmühl (Fig. 3.3). The fortification is situated between the two rivers on the steep-sided spur of the Hirschberg (Fig. 3.2) and *Michelsberg* (Fig. 3.1), up to 70 m above the Danube. Between the northern foot of the hill and the Danube, there is a plateau called *Mitterfeld* (Fig. 3.3). Three lines of fortification oriented north–south enclose the site. The oldest (Fig. 3.3a) on the summit of the *Mitterberg* were erected during the Bronze Age and rebuilt at the transition between Hallstatt and La Tène (Leicht 2000, 16–17). The central and the exterior rampart can be assigned to late La Tène (Figs. 3.3b and 3.3c), as well as another rampart which delimited the *Mitterfeld* to the

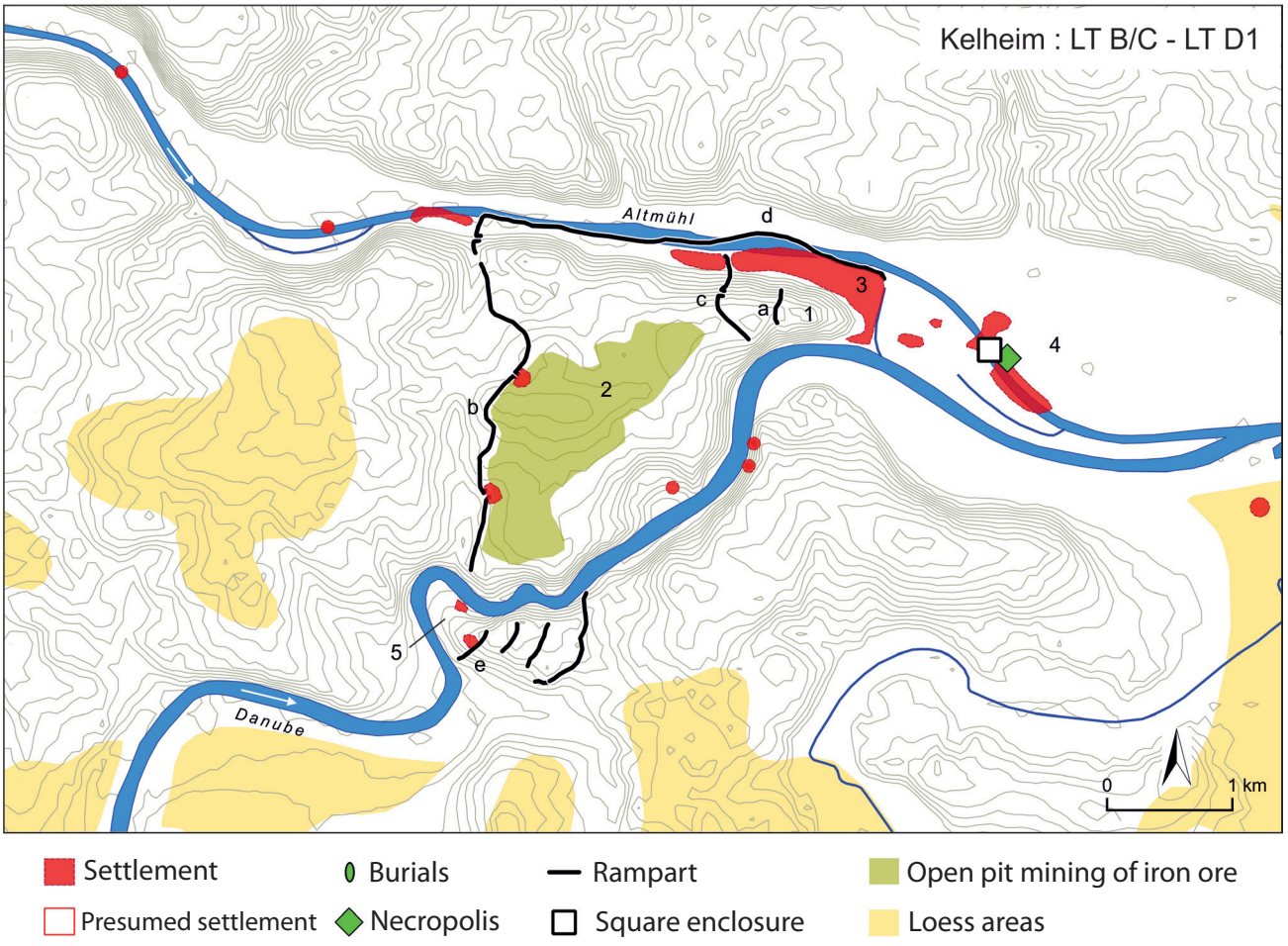


Figure 3.3. *Kelheim: occupation of the area during the middle and the late La Tène period. 1)* Michelsberg*; 2)* Hirschberg*; 3)* Mitterfeld*; 4)* Altmühlflur*; 5)* Frauenberg*; a) rampart on the* Michelsberg*; b) exterior rampart; c) interior rampart; d)* Altmühlwall*; e)* Wolfgangswall *(Tappert 2016, fig. 2, modified by the author).*

north (Fig. 3.3d) along the Altmühl river (Leicht 2000, 123–4). The walls of this latest phase, built towards the mid first century BC, defend an area of almost 600 hectares, which makes *Kelheim* one of the biggest *oppida* in Europe. The earliest settlement remains date from Hallstatt D3 to La Tène A, followed by a longer hiatus (Pauli 1993, 72–5, 87–8). La Tène finds discovered under the internal and the external walls, as well as several burials dating to La Tène B2 and C1 indicate that an open settlement preceded the development of the *oppidum* during La Tène C2 (Pauli 1993, 25–7). The densest occupation during La Tène C2 and D1 was confined to the settlement terrace of the *Mitterfeld*, where several enclosed farmsteads, pits and more than 40 silos were excavated. In this area, Mediterranean imports have been found as well as metallurgical activities including the production of coins (Pauli 1993, 39–43, 53–63; Sandner 2012, 79–95). On the *Hirschberg*, between the exterior and the central rampart area, several hundred pits were dug to extract iron ore, which was then processed in the *oppidum* (Pauli 1993, 35–9; Schäfer 2002, 219–25). *Kelheim*'s occupation ended during the transitional period between La Tène D1 and D2 (Pauli 1993, 89).

The *Fentbachschanze* is situated on a trapezoidal spur in the foothills of the Alps between the small rivers of Mangfall and Moosbach (Fig. 3.4). This spur measures 500 m in length and 350 m in width. Steep slopes naturally protect the site to east and north. The fortification that defends the spur ('Abschnittswall' in German) is located to the south, where the natural defence was considered insufficient (Irlinger 2007, 264). Today the rampart is still 9 m high, but its construction technique is unknown, although it was fronted by a ditch. In 1877, the ditch was still 2 m deep and 4 m wide, but can no longer be seen. The entrance was probably

situated to the east. Another rampart was eventually placed in front of the inner one, at a distance of 280 m. Paul Reinecke was the first archaeologist who defined the Fentbachschanze as an *oppidum* in 1930 (Reinecke 1930, 41, 46), but, up to now, the site has not been properly studied. Very limited excavation campaigns took place in 1877 and 1973, but they have only yielded a few finds, such as burnt clay, some iron objects, coins and fibulae. Metal detectorists have discovered more finds from the middle and late La Tène period, but also from the Bronze Age, the Urnfield period and from Roman times. Geophysical survey in 1995 has shown that timber buildings, pits, furnaces and fireplaces existed on the plateau, not only within the inner fortification, but also between the inner and the possible outer fortification (Faßbinder & Irlinger 1996,

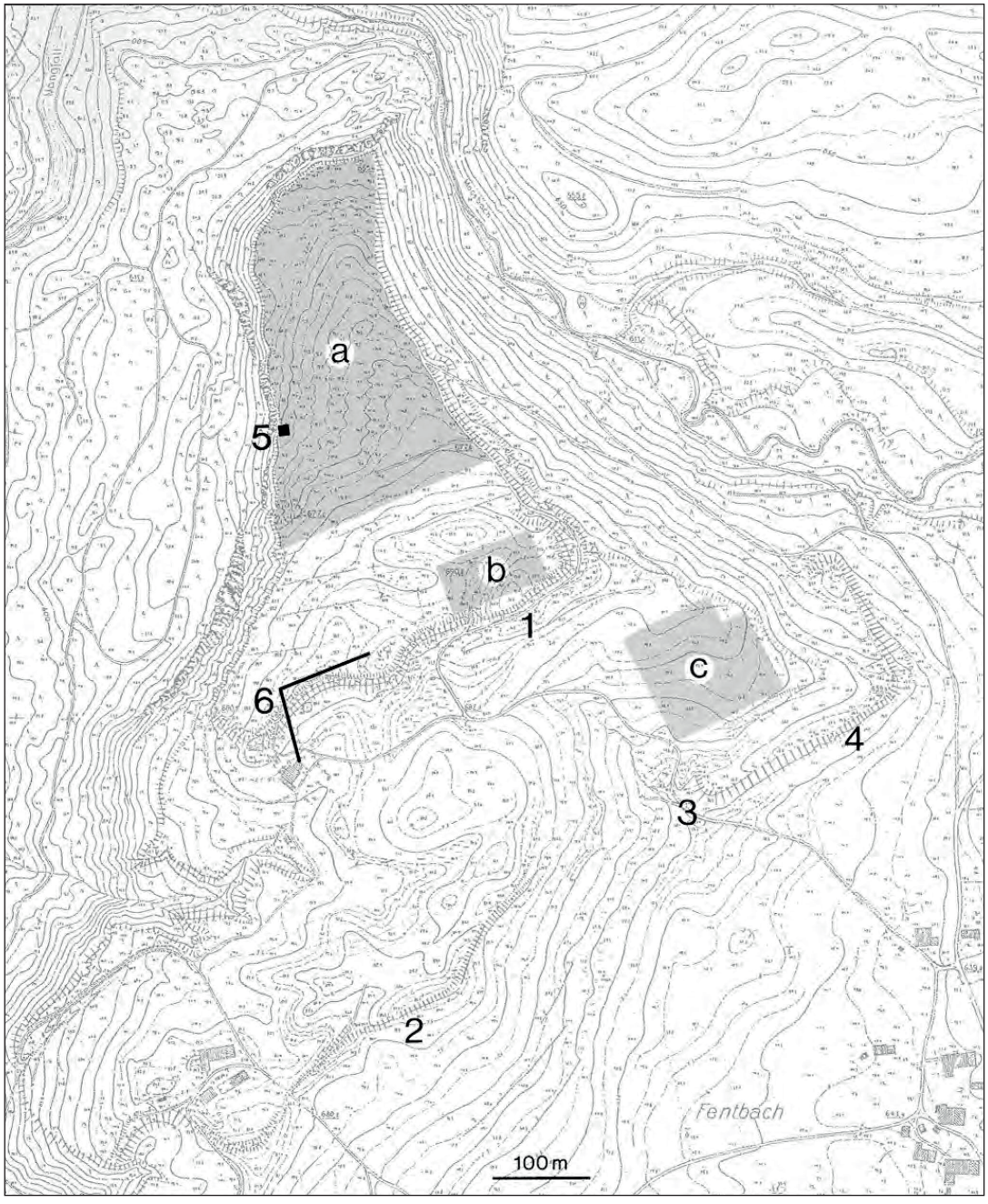


Figure 3.4. Fentbachschanze. *1) main rampart; 2, 4) external rampart; 3)* Zangentor *entrance? (gate with terminals turned in); 5) excavation 1965; 6) excavation 1973; a, b, c) magnetometer survey 1995 (Faßbinder/Irlinger 1996, fig. 1).*

199–202). However, it is impossible to attribute these features definitely to the Iron Age because of the lack of excavations (Irlinger 2007, 264).

The *Staffelberg* is an outlying escarpment of the Franconian Jura, with very steep slopes, that dominates the Main valley. A first fortification was erected on the *Staffelberg* in Hallstatt D, followed by another one that surrounded the uppermost plateau of 3 ha in La Tène A. This fortification was destroyed by fire around 380 BC. During the first half of the second century BC, several ramparts were built on the plateau and below, enclosing a total surface of 49 ha. So far, only a couple of post holes, pits and fire places of the late La Tène period have been excavated. Mainly ceramics and iron tools were found within the settlement, as well as several foreign coins from Gaul, Switzerland, Bohemia, Cappadocia and Rome and two coin punches. Glass jewellery was scarce. The *oppidum* was abandoned in the second half of the first century BC (Abels 2001, 466–9; Irlinger 2007, 263).

The *Schwanberg* is a 474 m high foothill of the Steigerwald that dominates the Main valley some 200 m below (Fig. 3.5). The hilltop of the *Schwanberg* is naturally protected by steep slopes to the north, west and east. The passage to the plateau to the south is barred by two ramparts and several ditches that are still very visible today. The first fortification system was already erected during the late Bronze Age and was rebuilt several times until the Middle Ages. A remodelling probably took place during the late Iron Age to enclose a total surface of 170 ha. The *Schwanberg* was frequented during the early and the late Bronze Age and again in the early and middle La Tène period (from La Tène B2 onwards). Finds of late La Tène date include ceramics, fibulae, iron tools, iron slags, a hoard containing 51 iron ingots, several glass bracelets, two gold and one silver coins. Most of these objects were discovered by metal detectorists. No archaeological features from the Iron Age have been excavated so far, so it is uncertain whether the site has ever been occupied (Buthmann 1998, 31–96).

The fortification of *Leonberg* is situated on a ridge at the confluence of the rivers Inn and Salzach. At least one scholar (Irlinger 2007, 269–70) does not consider the settlement of *Leonberg* as an *oppidum* but as a 'large settlement'. Three sides of the ridge are naturally protected by steep slopes, the fourth by a rampart which is still up to 7 m high, dating in its first phase to the Iron Age and enclosing up to 24 ha. The site has not so far been excavated, so geophysical survey alone shows that pits and post buildings existed on the plateau. More than 40 silver coins were discovered during field walking, many of which come from Eastern Gaul. Fragments of bronze vessels indicate the presence of Roman imports, and it is clear that bronze, silver and gold were worked in the settlement. The *Leonberg* was occupied during La Tène D and probably abandoned in La Tène D2a,

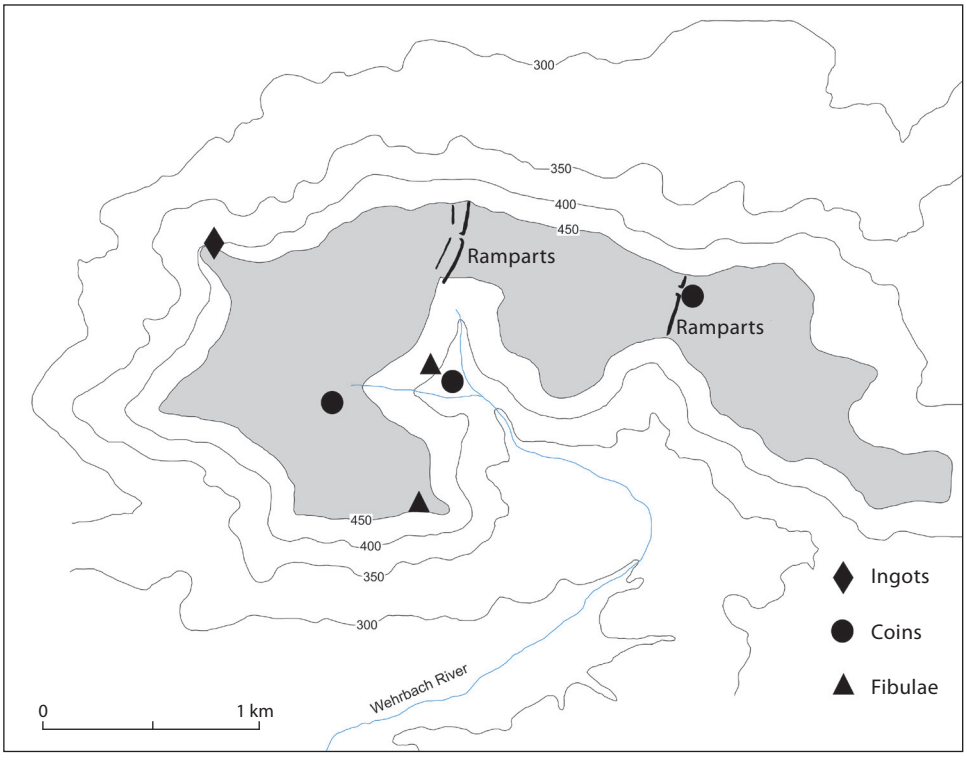


Figure 3.5. Schwanberg*: fortifications and single finds (Peschel 1989, fig. 137).*

Table 3.1. *Comparison of urban attributes of the sites taken into account. Bold letters: oppida. The arrow indicates the decreasing number of urban attributes (last column), and thus the decreasing degree of urbanism of the different sites (Author).*

Site	Location close to roads	Continuity	Older occupation	Public space	Density	Surface	Diversity of buildings	Specialized crafts	Exploitation of raw materials	Trade activities	Temples	Fortifications	Roads	Residences	Planning	Burials	Social diversity	Agriculture	Writing	Minting	Number of urban traits
Manching	X	Lt B2-D1b	HA D3-LT A	X	X	380	X	X	X	X	X	X	X	X	X	X	X	X	X	X	19
Kelheim	X	Lt C2-D1	HA D3-LT B		X	600	X	X	X	X		X		X		X				X	12
Berching	X	LT D			X	25	X	X	X					X	X					X	8
Straubing	X	LT B1-D2	HA D3-LT A		X	42	x		X	X											7
Passau	X	Lt C2-D1	Lt A-B1		X	40		X	X	X											6
Leonberg	X	Lt D1-Lt D2a			X	24		X		X		X									5
Steinebach	X	Lt C1-D1				25		X		X										X	5
Fentbach-schanze	X	Lt C-D2			X	42	?					X									4
Staffelberg		Lt D?	HA D-Lt A			49				X		X								X	4
Schwanberg		Lt D?	LT A-B			170				X		X									3

since dress items such as bar-shaped and zoomorphic belt hooks, characteristic of the Germanic tribes of Central Germany, were also found on the *Leonberg* (Pietsch 2001, 72–5; Irlinger 2007, 269–70).

It is obvious that the sites described above have little in common, except as examples of fortification from the late Iron Age – and the label *oppidum* which has its origins in Caesar's 'Commentaries on the Gallic War'. As Caesar focused on military actions, fortifications played an important role in his accounts. Accordingly, modern archaeologists regarded the existence of ramparts, as well as an enclosed area of more than 15 ha as the fundamental characteristics for the definition of a '*Celtic* town', even if Caesar himself never claimed urban status for the *oppida* (Rieckhoff & Biel 2001, 257–8; Fichtl 2005, 9–16; Salač 2012, 333; Salač 2014, 70–1).

The differences between the Bavarian *oppida* correspond to the differences that also exist in other regions of the late La Tène culture. Indeed, Vladimir Salač distinguished in 2005 two different types of *oppida*: on the one hand he defined the so called 'lowland *oppida*' which were located in densely populated fertile lowlands, with access to an agricultural hinterland. They were situated close to natural communication routes and often had a multi-period occupation outside the Iron Age. They encompassed large surface areas, were densely inhabited and showed a planned and structured internal organization. Many of them gradually developed from small villages, as early as the third century BC. *Manching* is the prime example of these lowland *oppida* (Salač 2005, 293–4). On the other hand, he defined as 'hilltop *oppida*' those which were situated in perched positions on the margins of populated areas or far away from these, on sites that were often only occupied during the late Iron Age. These sites were not related to communication routes and did not possess an agricultural hinterland. The occupation density was generally low so that large areas remained without built structures. Economic activities were of no importance. Nonetheless, these sites were monumentally fortified and their creation was an organized project that took place after 150 BC (Salač 2014, 67–8).

Salač also identified, in addition to the hilltop and lowland *oppida*, unfortified settlements which were situated in lowland areas with a suitable agricultural hinterland and close to communication routes or sources of raw materials. They covered surfaces of tens of hectares and were densely inhabited. They had a planned and structured internal organization and showed a concentration of production and trade activities. Salač considers these settlements 'centres of production and distribution' (PDC). The most important of these unfortified lowland central places, where coin minting played a major role, are called 'Němčice-Roseldorf type centres' (NRC) (Salač 2005, 290–2; Salač 2014, 66–7).

In Bavaria, there are several sites (Fig. 3.1) that correspond to this description (Irlinger 2007, 266–78), although most of them are only known from surface finds (Irlinger 2002, 253). One of these is the unfortified settlement of *Berching-Pollanten* (district of Neumarkt in der Oberpfalz, Oberpfalz). It was situated in the Sulz valley which links the Danube to the rivers Main, Rhine and Pegnitz in an area with many iron ore deposits (Fig. 3.6). The settlement covered an area of approximately

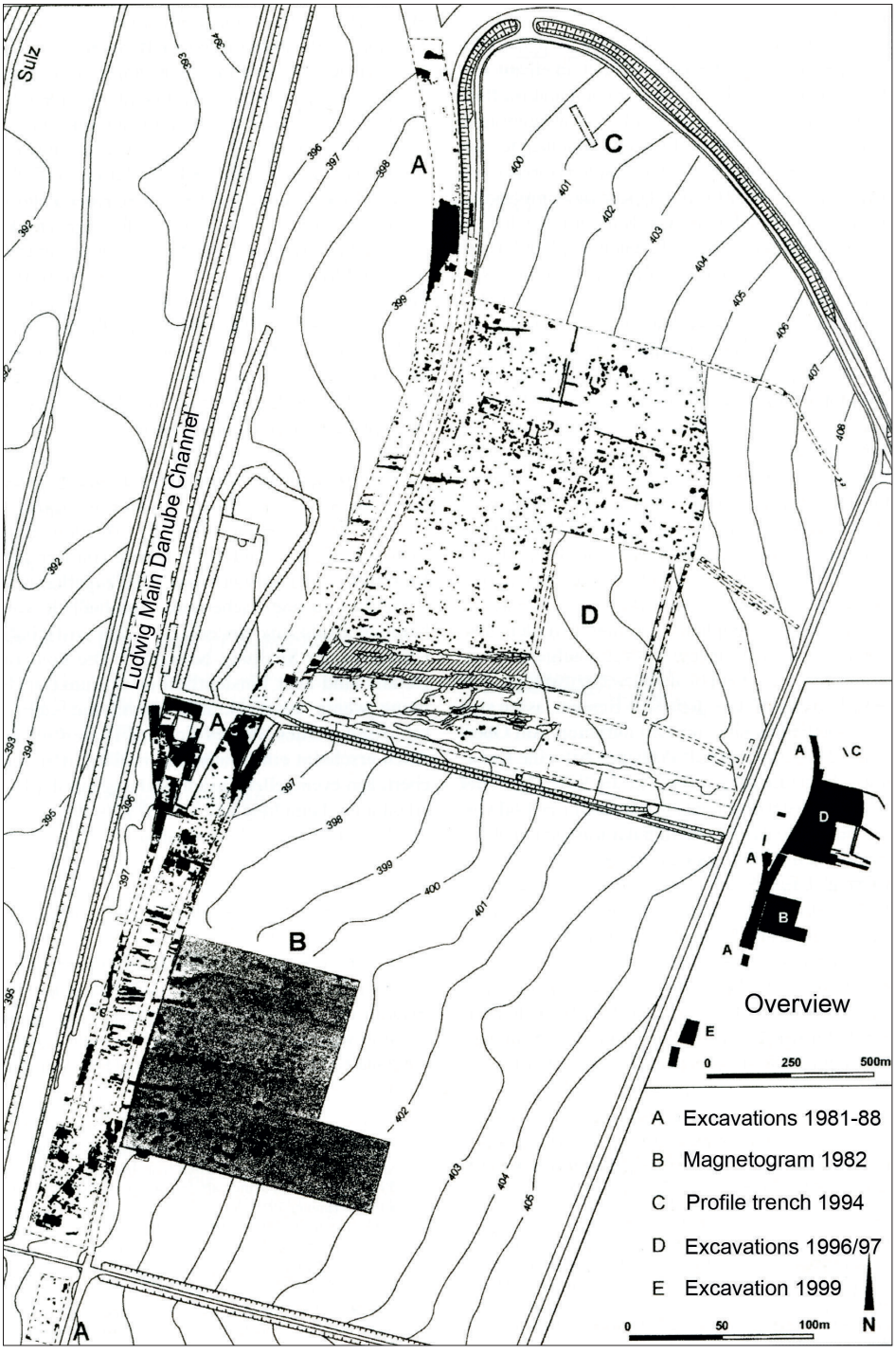


Figure 3.6. Berching-Pollanten*: areas and archaeological structures excavated between 1981 and 1999 (Schäfer 2002, fig. 17).*

25 ha, consisting of a residential area with enclosed farmsteads and an area with workshops. Several sunken huts were excavated here which contained plenty of iron working residues, such as slag, raw iron, iron ingots, semi-finished products and production waste. The inhabitants of *Berching* also produced iron and bronze fibulae, weapons, glass bracelets, worked amber beads and probably minted coins. Foreign coins from Gaul, Bohemia and *Noricum* and a weighing scales show that trade activities were important in *Berching*. However, Roman imports (including amphorae and metal vessels), such as might indicate long distance trade, were missing (Schäfer 2002, 227–35; Schäfer 2010, 227–35).

Paul Reinecke also classified the sites of *Straubing* and *Passau* as *oppida* in 1930 (Reinecke 1930, 47–8),

but no late Iron Age defence system has been found on these sites. The agglomeration of *Passau* (district of Passau, Lower Bavaria) is located at the confluence of the rivers Danube and Inn on a peninsula called *Domberg* (cathedral hill) which is formed by the two rivers (Fig. 3.7). From here, one can easily reach the Austrian Salzkammergut with its rich salt deposits via the Inn river. Some 10 km to the south, there is a deposit of graphite that was used for the production of Iron Age ceramics. A rampart was erected on the *Domberg* during La Tène A/B1 (around 400–370 BC) (Fig. 3.7, above) while the settlement was probably unfortified during La Tène C2 and D1b. This rampart was destroyed during the Medieval period when the *Domberg* was densely covered with buildings. The La Tène settlement on the peninsula probably covered

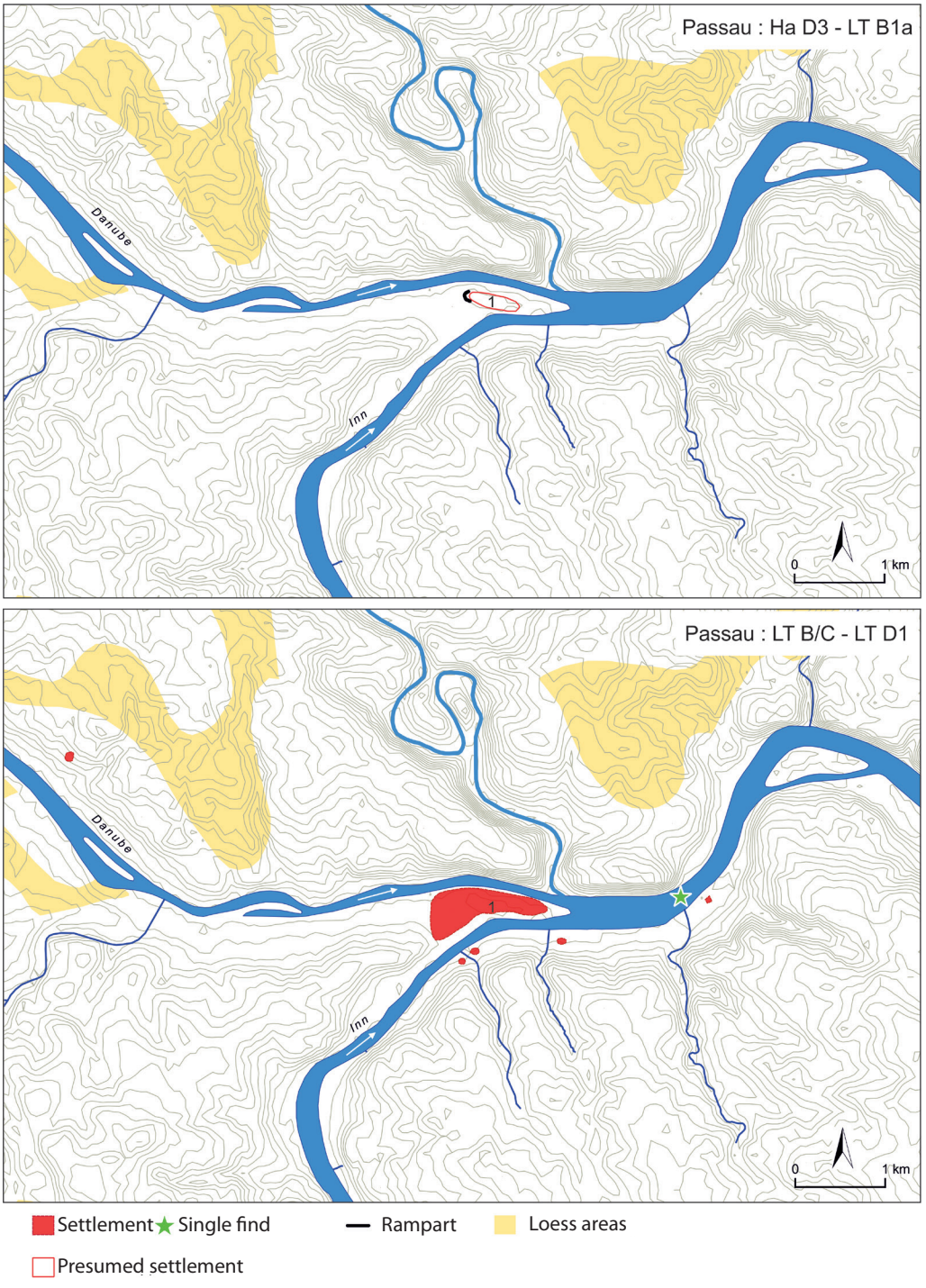


Figure 3.7. *Passau: settlement remains during the Late Hallstatt/Early La Tène period (above), and during the Middle and Late La Téne period (below). 1)* Domberg *(cathedral hill) (Tappert 2016, fig. 4, modified by the author).*

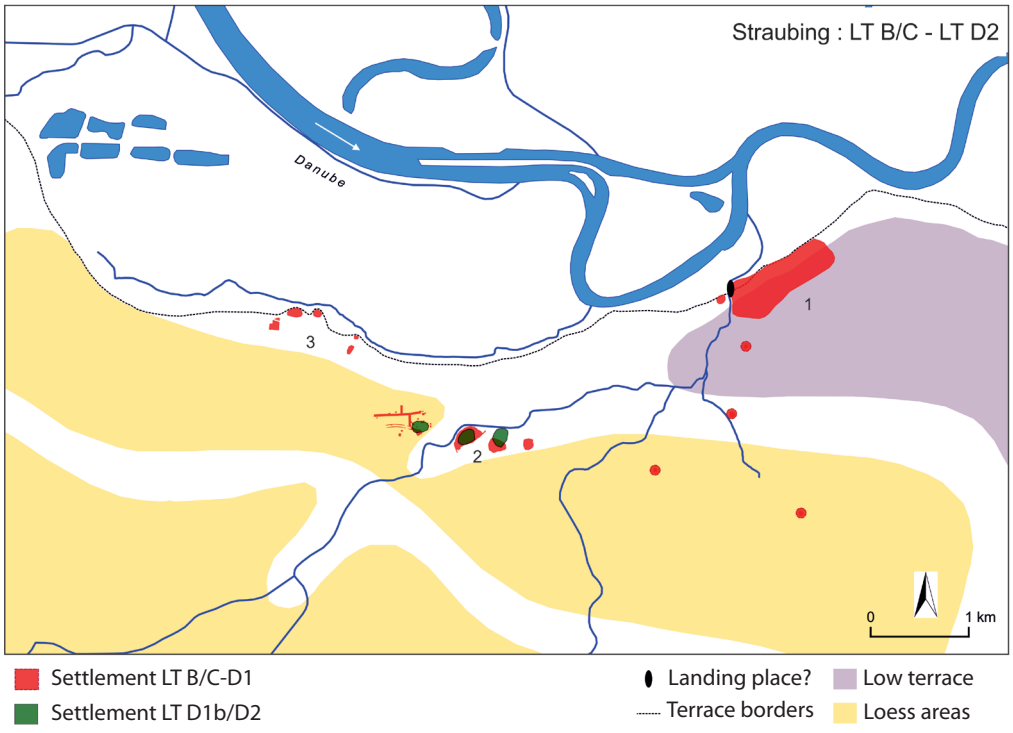


Figure 3.8. *Straubing during the Middle and Late La Tène period. 1)* Ostenfeld*; 2)* Bajuwarenstraße*; 3)* Aster Weg *(Tappert 2016, fig. 6, modified by the author).*

an area of 40 ha (Fig. 3.7, below), and, although it was heavily disturbed by the medieval and modern building activities, several pits survived which contained remains of iron working, wheel-turned pottery and a bronze coin from the *Allobrogi* in southeastern Gaul (Niemeier 2002, 76–9; Irlinger 2007, 272–3; Niemeier 2009, 229–36; Tappert 2016, 153–6).

The agglomeration of *Straubing* (district of Straubing, Lower Bavaria) is situated in a fertile plain, south of a meander of the Danube (Fig. 3.8). The first settlement remains are known from Hallstatt D3 to La Tène A. During the middle La Tène period (La Tène B), there is only evidence of burials and a sunken hut to indicate that the area continued in occupation. In the late La Tène period, the site consisted of several settlement areas: the biggest called *Ostenfeld* is located on the low terrace of the Danube (Fig. 3.8, 1). During La Tène C and D, the *Ostenfeld* settlement extended to a surface area of about 42 ha, along the northern fringe of the Danube. In the area called *Lerchenhaid*, three very large post-constructed and galleried buildings were discovered (Fig. 3.8, 3). The settlement of *Bajuwarenstraße* had a rather rural character (Fig. 3.8, 2). A Roman port situated on the right bank of the Allachbach stream has also yielded Iron Age finds, so it is possible that this landing place already existed during the late La Tène period. Finds (gold and silver coins, fragments of a pair of scales, imitation Campanian ware, etc.) were discovered, especially in the settlement of *Ostenfeld* which show that trading was an important activity in *Straubing*. During La Tène D1, new settlers of Germanic origin from Thuringia arrived who settled down in the areas of *Bajuwarenstraße* and *Lehmgrube Mayr*. The settlement persisted until the end of the Iron Age (La Tène D 2), maybe even until the early Augustan period in the early first century AD, so the *Celtic* name *Sorviodurum* survived (Tappert 2007, 173–201; Tappert 2016, 156–60).

The settlement of *Steinebach* (district of Starnberg, Upper Bavaria) is situated on an upper moraine on the bank of Lake Wörthsee, and probably covered an area of 25 ha. Small-scale survey and excavation campaigns have yielded a large number of glass bracelets and beads, several bracelets made of jet, the material culture of dress such as fibulae, belt hooks, bracelets, finger rings made of bronze and iron, the fragment of a sword, several iron tools, keys, elements of horse harness, spindle whorls, grinding stones, ceramics, etc. The presence of iron raw materials and production waste show iron processing, and probably metalworking (iron, bronze and coins), as well as glass production. The site was probably occupied from La Tène C1 to D1, reaching its climax in La Tène C1b and C2 (Irlinger 2007, 273–5; Kaindl 2010, 127–56).

Germering (district of Fürstenfeldbruck, Upper Bavaria) (Irlinger 2007, 275; Uenze 2009, 5–24), *Stöffling* (district of Traunstein, Upper Bavaria) (Irlinger 1991, 76–9; Irlinger 2007, 266–9), *Egglfing* (district of Passau,

Lower Bavaria) (Uenze 2000, 1–21; Uenze 2007, 113–22; Irlinger 2007, 275), *Altendorf* (district of Bamberg, Upper Franconia) (Stöckli 1979, 27–43; Irlinger 2007, 273–5) and *Weißenburg* (district of Weißenburg-Gunzenhausen, Central Franconia) (Nadler 2001, XVI–XVII; Irlinger 2007, 276) are further large centres of production and distribution in Bavaria, where for instance the production of glass or trade activities (via the presence of foreign objects such as jet bracelets or coins from Gaul, Bohemia and *Noricum*) have been detected.

Pre-roman urbanism in Bavaria?

Considerable differences become visible, when examining the 'urban attributes' of these Bavarian sites (Table 3.1). *Manching* stands out amongst all of them, because it had more urban traits than all the others. This is no surprise because *Manching* is one of continental Europe's most intensively explored *oppida*, while other sites have been only studied via geophysical or field survey. *Manching* possessed all the characteristics that made a settlement urban in the terms defined above. It was continuously settled since La Tène B2 and had an even older occupation from the Hallstatt period. It housed a population of several thousand inhabitants and possessed a differentiated architecture, including public works such as fortifications, roads, open spaces and temples. The internal structure reveals initial planning. Enclosed farmsteads, as well as rich burials indicate a certain degree of social inequality. *Manching* was a centre of craft production and trading activities. Furthermore, iron ore was exploited nearby. Evidence for minting coins and writing indicate that the *oppidum* also fulfilled administrative and political functions for its hinterland. These urban traits were already present in La Tène C2, long before the fortification was built and before the settlement became a 'real' *oppidum* in these terms (Eller et al. 2012, 313–14; Wendling 2013, 482).

Other sites display only some of the key traits. The *oppidum* of *Kelheim* showed considerably less urban traits than *Manching*. Apart from the ramparts, public buildings such as temples and roads or enclosed farmsteads serving as residences for a local élite are unknown, although the exploitation of iron ore played an important role. Even if archaeologists often classify the sites of *Fentbachschanze*, *Leonberg*, *Schwanberg* and *Staffelberg* as *oppida*, they only had a few urban traits. With the exception of the ramparts, no communal structures have been located. The internal settlement structure is hardly known in most cases, so no planned urban layout can be observed. Craft and trade activities only took place on a small scale. According to the current state of research, these sites did not host a significant number of people, so these sites apparently belong to the category of hilltop *oppida* defined by Vladimír Salač (Salač 2014, 67–8). It is unlikely that they were urban in the full sense of the term. The question arises whether new excavations, geophysical and field survey will significantly challenge this conclusion. Geophysical surveys have shown that buildings and settlement features existed on *Fentbachschanze* and *Leonberg*, but it is still uncertain whether these belong to the late Iron Age. On *Schwanberg* and *Staffelberg*, no studies have been carried out yet but it is conceivable that these will not yield any substantial archaeological features. For instance, in the *oppidum* of *Mont Vully* in Switzerland excavations have been undertaken for years, but while the monumental fortification clearly encloses an empty space of 50 ha, finds are scarce. This is why its excavators interpret the site as a refuge and a meeting place for a large hinterland (Kaenel et al. 2004, 231–4). The same hypothesis could in fact be the case for *Schwanberg* and *Staffelberg*. In this case, objects such as foreign coins, iron tools or ceramics might indicate that fairs, as well as public assemblies or political meetings, regularly took place on both sites which remained unoccupied during the rest of the year (see Fernández-Götz 2013, 72–6, on the importance of public assemblies in Late Iron Age Gaul).

Open agglomerations like *Passau* or *Berching-Pollanten* have yielded considerably more archaeological features and finds and possess more urban traits than sites such as *Schwanberg* or *Staffelberg*. This might be because of the topographical position that made the lowland production and distribution centres more suitable for the concentration of inhabitants and production, the planning of an urban organization, the control of transport, extensive trade activities and the exploitation of economic resources (Salač 2014, 66–7). Their territorial influence could thus be far beyond the impact of fortified sites which were termed *oppida* at an early stage of the research, although they showed little signs of a dense and permanent occupation. In this regard, Bavaria is not unique. The same differences between open and fortified, lowland and hilltop, settlements are to be noted in other regions of the late La Tène culture, such as Bohemia and Gaul (Fichtl 2013, 3–18; Poux 2014, 157–9; Salač 2014, 71). Good parallels for the unenclosed agglomerated settlements can be a found in France, at *Aulnat-Gandaillat* in the Auvergne (Deberge et al. 2007) or *Source de l'Yonne* near the *oppidum* of *Bibracte* in Burgundy (Moore et al. 2013). The massive ramparts of the *oppida* that have often been used in the past to define the 'earliest towns north of the Alps' seem, in fact, to be a minor trait within the definition of an urban settlement in the Late Iron Age (Salač 2005, 292–5; Salač 2012, 333).

Several particularities make pre-Roman urbanism in Bavaria distinctive. First of all, in comparison with other regions, there is only a limited number of central places in Bavaria, regardless of whether we referring to an *oppidum* or an unfortified settlement. For instance in the Treveran territory in the Middle Rhine – Moselle Region, the average distance between *oppida* was 53 km (Fernández-Götz 2014b, 154). In the territory of the *Mediomatrici* in Eastern Gaul, the average distance was 42 km (Féliu 2008, 230). In Bavaria, settlements with urban traits are not as regularly distributed in space. A concentration is visible along the Danube, while large areas – for instance in Western Bavaria (administrative district of Swabia) – seem to be devoid of similar sites. Even if *oppida* and open settlements of the neighbouring federal states or countries (Baden-Württemberg, Hesse, Thuringia, Czech Republic or Austria) are taken into account, this situation does not change very much. This might indicate that we are either missing several fortified or unfortified central places with urban characteristics, or that the territory of modern Bavaria was less densely structured or urban than other regions during the Late Iron Age. The *civitas* of the *Treveri* of the Late La Tène period, for instance, 'constituted a polycentric state formed by the aggregation of various communities that would each have had its own territory, identity and a certain degree of independence, while also recognizing another identity common to all of them and ceding part of their sovereignity to the supracommunity' (Fernández-Götz 2014b, 155). The Treverian territory was thus subdivided into the territories of six or seven *pagi,* each dominated by an *oppidum* (Fernández-Götz 2014b, 155–6). Similar settlement patterns are known from other *civitates* in Gaul, such as the Mediomatrici (Féliu 2008, 263–4). In contrast, large parts of Bavaria were probably dominated by rural settlements during the Late Iron Age and were, according to that characteristic, less centralized and hierarchized. Comparing the Bavarian central places with those known from other regions, it is noticeable that two of the former (*Manching* and *Kelheim*) were extremely extensive in terms of area, covering 380 and 600 ha respectively. They were much larger than for instance the majority of the *oppida* of Gaul, whose ramparts generally enclosed areas between 15 and 100 ha (Fichtl 2005, 169–85). However, the larger dimensions do not imply, from my point of view, that the Eastern examples were densely populated and ruling over larger territories, because vast zones within the walls were not covered with buildings but used for agricultural and metallurgical purposes (von Nicolai 2017, 11–13).

Secondly, urbanism was very unstable in this period. Although six out of ten sites (*Manching*, *Kelheim*, *Passau*, *Straubing*, *Staffelberg*, *Schwanberg*) show evidence of an earlier occupation during the late Hallstatt and Early La Tène period, none of them was occupied continuously until the Late Iron Age. In general, only a handful of burials indicate that the area was not completely abandoned during the Middle La Tène period. The *oppidum* of *Manching* had a relatively long and complex history, from unfortified to fortified settlement between La Tène B2 and La Tène D1, but its occupation nevertheless ended after a maximum length of 250 years. Some sites were only occupied for two or three generations during La Tène D, for instance *Schwanberg*, *Staffelberg* or *Berching-Fentbachschanze* and *Leonberg* still existed in La Tène D2, when *Manching* was already abandoned, but neither of them was transformed into a Roman settlement in the first century AD, like some of the (lowland) *oppida* in Gaul (Rieckhoff 2002, 362–3; Fichtl 2005, 151–60). Only *Straubing-Bajuwarenstraße* might have been partially occupied until Early Roman times (Tappert 2007, 200). The ephemerality of the *oppida* is also known from other parts of temperate Europe (Collis 2017, 273), but it is particularly pronounced in southeastern Germany. The reasons for these ruptures and for the abandonment for the Eastern *oppida* are unknown: internal social riots, external threats, political and economic pressure, insufficient agricultural supply from the hinterland, plagues and famines have been suggested as causes of the decline of the *oppida* in the East (Rieckhoff 2002, 374–9; Salač 2005, 296; Salač 2012, 337–9).

Thirdly, ritual did underwrite the formation of the *oppida* in Bavaria, but in a less obvious way than in other parts of Europe. For the *Treveri* in the Middle Rhine – Moselle region, the political-religious integration and structuring of the territory triggered the emergence of the *oppida,* whereas other functions such as defence, production or commerce were less important. The Treveran *oppida* developed on particular sites because these sites had already been frequented as sacred places, more or less regularly before the second and first centuries BC (Fernández-Götz 2014b, 167–9). In Bavaria, *Manching* is the only settlement where a sanctuary, located at the exact centre of the *oppidum*, existed from its very beginning (Sievers 2007, 22–30). No sanctuaries are known from the other sites studied in this paper (but this might be a product of the lack of excavations). However, the *oppida* of *Kelheim* (Leicht 2000, 89–90), *Schwanberg* (Peschel 1989/1990) and *Staffelberg* (Abels 1980, 72–3) have yielded special deposits associated with their fortifications. Rituals were thus performed at the boundaries of the fortified sites, either during the construction of the defensive works or during the occupation of the sites. This phenomenon can be observed in many parts of Iron Age Europe (von Nicolai 2014, 164–71; von Nicolai 2016, 318–26).

Conclusion

When we consider the criteria deployed to define urban settlements in the Late Iron Age, our answer to the initial question addressed to the urbanism of the *oppida* in Bavaria turns out to be rather negative. *Manching* seems to be the only site that fulfils all the defined criteria, by dint of being an economic, administrative and religious centre for a larger hinterland where a large population continuously lived together and enjoyed an urban lifestyle. Moreover, long before the site was fortified, it had already reached this status as a 'Němčice-Roseldorf type centre' according to Vladimír Salač (Salač 2014, 65). All the other Bavarian *oppida* can only be regarded as hilltop *oppida*, following Salač's typology whose urban character is doubtful. This observation does not exclude the possibility that these sites – for instance *Kelheim* (Leicht 2002, 125–8) – served as central places for assemblies and fairs or temporarily as refuges, given their location, their size and the monumentality of their fortifications. The open agglomerations in Bavaria, especially *Berching-Pollanten*, *Passau* and *Straubing*, can deservedly be regarded as 'centres of production and distribution' because the quantity and diversity of finds demonstrating craft and trade activities are impressive. However, they are, in my opinion, not urban settlements, because important characteristics – such as a planned layout, communal structures and building activities, a functional and structural variety of building structures and indicators for a social diversification – are missing. It is to be hoped that new fieldwork will allow the revision of these negative conclusions about the relative absence of Late Iron Age urbanism in Bavaria. Since many, if not most, sites are primarily known on the basis of surface finds, chances for a future revision are good.

Chapter 4

Ritual, society and settlement structure: driving forces of urbanization during the second and first century BC in southwest Germany

Gerd Stegmaier (Tübingen)

The emergence of Late La Tène *oppida*, during the second century BC, marks a great shift in the development of settlements and settlement structure north of the Alps (Fernández-Götz et al. 2014b). This fundamental change can not only be seen in the occurrence of new forms of architecture and the extraordinary size of those multifunctional centres, but also in the rise of a complex economic system and a newly structured society.

Factors of centralization

In the light of these facts, the factors that led or allowed the foundation of *oppida* need to be assessed. As a first step towards this objective, two categories of driving forces can be identified: On the one hand, there are the 'ecological and economic factors' which favoured the establishment of central places and accelerated the process of centralization. On the other hand, 'socio-political and religious factors' also played a significant role (Fig. 4.1).

1. Ecological conditions:
The decisive factors, considered 'ecological conditions', for the foundation of an *oppidum* include: the topography and landscape, the climatic conditions and the availability of water.

2. Geographical position:
Another very important factor is the geographical position of a settlement, which ensured the control of trade (Salač 2004) and territorial dominance within a regional or supra-regional area.

3. Natural resources:
The third significant factor, which has to be mentioned, is access to natural resources. Those include e.g. iron ore, salt or other raw materials (Dobiat et al. 1998). The availability of wood was also of high relevance for the foundation and function of large-scale settlements like Late La Tène *oppida* given the construction of dwellings, the erection of fortifications or fuelling of industrial activity. Additionally, the presence of fertile soil is also fundamental for an agricultural economy and society.

4. Collective action:
Moving on to the 'socio-political and religious factors' which also influenced the foundation of *oppida* in a significant way, the intentions of larger parts of Late La Tène society have to be made a subject of discussion. People living in rural settlements, small villages or clusters of farmsteads, had the need for periodical gatherings and meetings (Fernández-Götz 2013). The reasons are varied: Meetings could address social issues and satisfy daily needs of life. First among them would be the economic transactions. For a rural society, it is fundamental, to organize periodical markets and fairs to buy and sell products. This includes the trade of objects and animals as well as the exchange of plants and seeds. Beyond that, it is quite important for smaller communities to participate in regional or supra-regional assemblies to initiate social interactions (Metzler et al. 2006). This ensures the exchange of information and enables social alliances, such as marriages. Additionally, political gatherings and meetings had to be held for elections or votes. Last but not least, communal assemblies were very important for legal practice, mediation and the proclamation of laws and planning.

5. Ritual traditions:
Apart from those profane or mundane motivations, ritual gatherings and traditions had an important influence on the foundation of *oppida*. Different studies have proved, that the long-term use of sacrificial places, mostly beginning in the Early La Tène period, led during the Middle and Late La Tène time to the

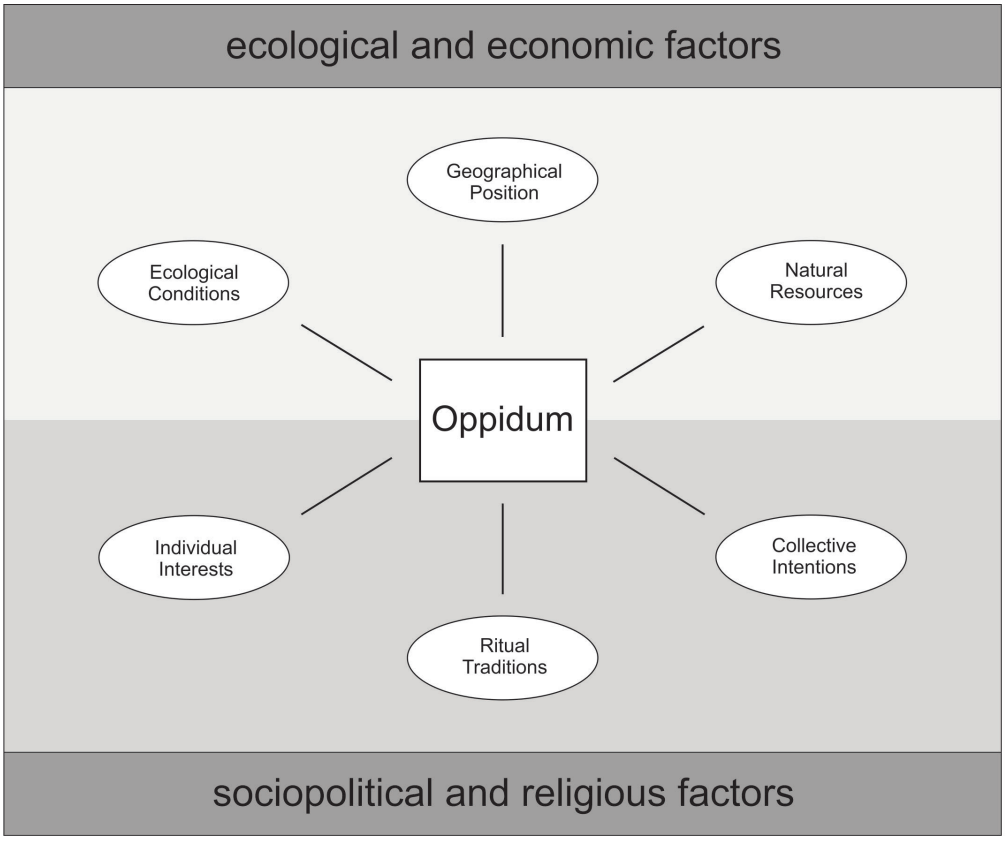


Figure 4.1. *Diagram of factors which favoured and led to a process of centralization and the foundation of oppida.*

foundation of important sanctuaries and centres of ancestor worship (Fichtl et al. 2000; Krausse 2006; Fernández-Götz 2014d). At the same time, these continuous ritual gatherings fostered larger communities and collective identities, which formed the basis for the later *oppida* societies (Fernández-Götz 2014a).

The famous *oppidum* of *Manching* (Lkr. Pfaffenhofen a. d. Ilm/D) can be cited as a principal example of this process. A small temple was excavated at the junction of the two main roads leading through the *oppidum*. The first phase of this building goes back to the end of the fourth century BC. Together with other ritual structures, this temple seems to have functioned as a nucleus for the foundation and development of the settlement (Sievers 2007; Eller et al. 2012; Wendling & Winger 2014). The same situation can be observed at the *oppidum* of *Corent* (Dép. Puy-de-Dôme/F). Recent research has revealed, that the central sanctuary was founded at a time, before the settlement itself developed (Poux 2011; 2012).

6. Individual interests:
As a next step, the role of individuals and their ambitions within Late Iron Age society should be analysed and discussed. Individual interests can hardly be proved or traced back to single people in prehistory. The investigation always will end up at the group level, representing a component of society, mainly the social élite. For the Late La Tène period, members of this social élite can be described as landowners, religious leaders, military rulers or representatives of aristocratic families (Guichard & Perrin 2002; Menez 2008; Wendling 2012). Their socio-political status led these individuals to be significantly involved in the foundation of *oppida* (Büchsenschütz & Ralston 2012). Most probably they were even the initiators of these developments. At the same time, it seems important to put some thought into groups or persons that could have blocked or resisted such processes of centralization, with the intention of preserving their social status and power by creating their own separate economic systems and residences.

Centralization vs. dispersal

Late Iron Age society was, therefore, faced with two differentiated strategies: centralization and dispersal. These two strategies were both enabled by the same

socio-economic conditions, but differentially promoted by selective parts of society. As an example for those two options, the development of two different geographical regions in southwest Germany will be described and analysed in the following sections (Fig. 4.2).

Region 1: Centralized power

The first region to be mentioned here is located on the western border of the Swabian Alb, close to the river Neckar. The *oppidum Heidengraben* (Lkr. Reutlingen/D) was founded in this region during the second half of the second century BC (Knopf 2006). With a total size of nearly 1700 hectares, the Heidengraben is the biggest fortified settlement of the pre-Roman period on the European Continent (Ade et al. 2012). The site is situated on an easily fortified highland peninsula (Stegmaier 2009a), and the walls, including eight gates, run along a length of more than 10 km (Fig. 4.3). The

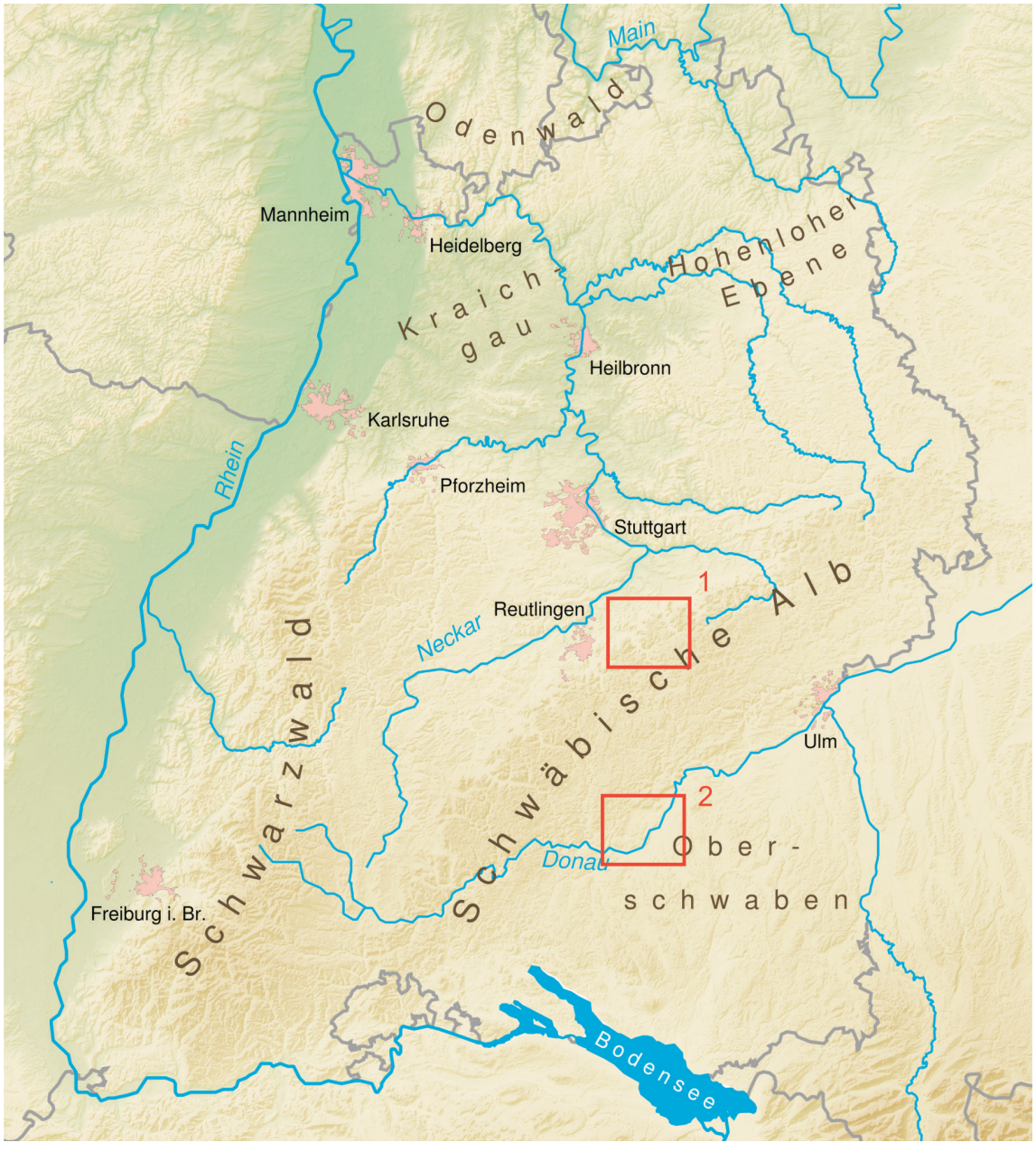


Figure 4.2. *Map of southwest Germany with the two areas of investigation: 1)* Heidengraben *region; 2)* Heuneburg *region (modified after https://commons.wikimedia.org/wiki/File%3AKarte_Baden-Wuerttemberg_physisch.png, last access 04.03.2017).*

centre of the *oppidum*, the so-called *Elsachstadt*, was separately fortified and covers an area of approximately 160 hectares.

The *Heidengraben* benefits from a number of positive geographical and ecological conditions, including: more than 2000 hectares of fertile ground that are easily accessible from the *oppidum* (Stegmaier 2009b; 2014; Stegmaier & Wahr 2009); its strategic geographical and territorial position, which allowed the control of traffic and the trade of goods in a broad region, most probably ensured the exaction of tolls. As a major centre of trade and crafts, the *Heidengraben* was located in between the main river-systems of Central Europe, the Rhine and the Danube. Large amounts of goods and Mediterranean imports reached the *oppidum* through these routes, and were traded farther afield. One interesting fact, in this context, is the extraordinarily high number of Italian wine amphorae, discovered in the settlement (Stegmaier 2014).

The occupation of the *Heidengraben* area began much earlier than the Late La Tène period. It can be shown that land use increased remarkably for the first time at the end of the Bronze Age. This can be seen for instance in the *Burrenhof* cemetery, located in the interior of the *oppidum* (Fig. 4.3). The earliest graves found there, date back to the Urnfield Culture between 1200 and 800 BC. With the beginning of the Early Iron Age, a large cemetery expanded, in the same area, with no less than 40 burial mounds. Many grave goods from these contexts were of a high quality, including amber beads and gold objects for example, providing evidence for a high standard of living (Zürn 1987, 63–5; Stegmaier 2012, 44–9). During the Middle and Late La Tène period, immediately before the *oppidum Heidengraben* was

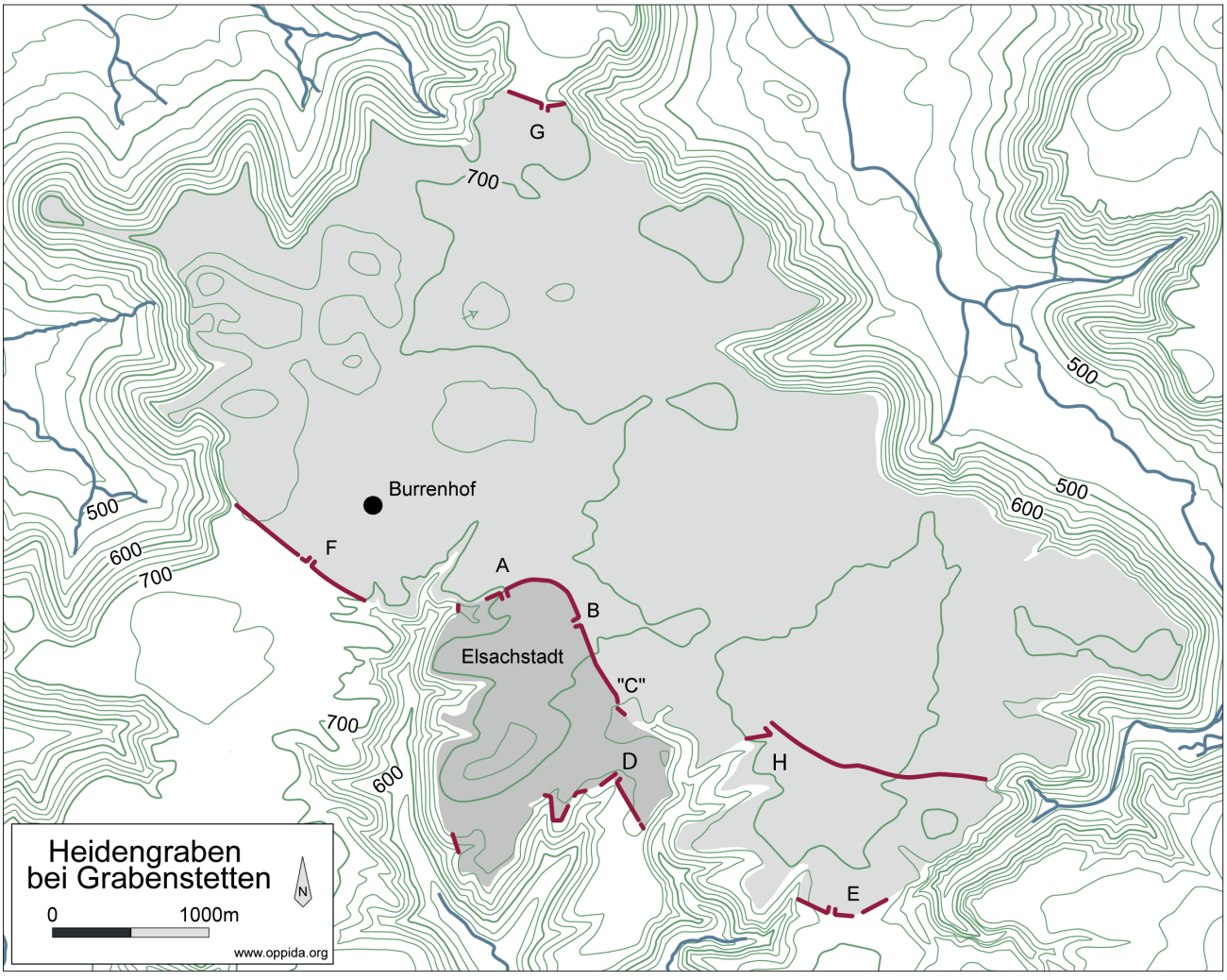


Figure 4.3. *Map of the Late La Tène* oppidum Heidengraben *with fortification lines and the location of the* Burrenhof *cemetery (modified after Fichtl & Rieckhoff 2011)*

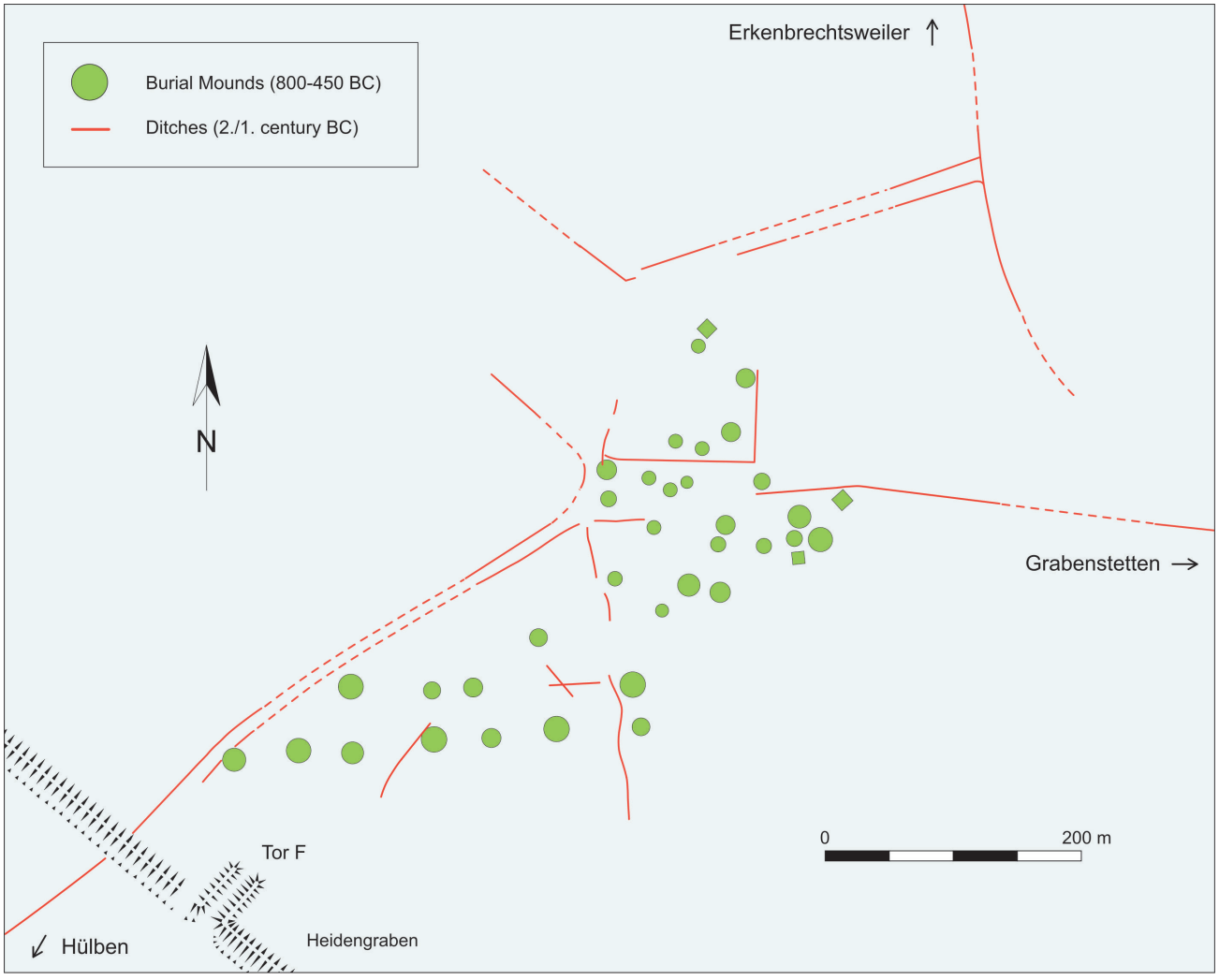


Figure 4.4. *Plan of the* Burrenhof *cemetery with Early Iron Age burial mounds and the complex Late Iron Age system of ditches (modified after Stegmaier et al. 2016).*

founded, the cemetery developed into an important place of ritual and ancestor worship. This is apparent from different types of offering pits and sacrificial structures which were detected during the last couple of years in the area between the Early Iron Age burial mounds (Stegmaier et al. 2015; Stegmaier in press b).

These ritual structures were placed amongst a complex system of ditches running through the cemetery (Fig. 4.4). It seems that some of these ditches were once aligned with ritual paths and processional ways, guiding pilgrims and the inhabitants of the surrounding settlements into the centre of the cemetery, where a rectangular structure can be detected (Stegmaier et al. 2016). Although the definite function of all the sacrificial structures and buildings is currently not fully understood, it is clear that the *Burrenhof* area was an important place for ritual assemblies and collective commemoration, during the Late Iron Age. Furthermore, the cemetery played a key role within the foundation of the *oppidum* and led to the creation of a collective identity. From this perspective, the ancestor worship practised here, in the middle of the Early Iron Age graveyard with its numerous and big burial mounds, guaranteed a spiritual and socio-political legitimation for the erection of the large-scale settlement (Stegmaier in press b).

The cemetery at the *Burrenhof* was not used for nearly 200 years, following the abandonment of the *oppidum*, in the first century BC. Evidence for reoccupation does not come until Roman times, when people settled once again next to the still visible tumuli and used them once more as places of sacrifice (Stegmaier et al. 2015).

In summary, it becomes obvious, that the convenient ecological conditions, the control of trade routes and the huge amount of fertile ground formed a perfect basis to build up a large-scale settlement. This led, in combination with personal interests and long-term ritual traditions, to the foundation of the *Heidengraben oppidum*.

Region 2: Dispersed power

A completely different development of settlement structure took place in the second region: This region is located on the other side of the Swabian Alb (Fig. 4.2), close to the area where the famous *Fürstensitz* of the *Heuneburg* was set up in the Early Iron Age (Krausse et al. 2016). The *Heuneburg* (Lkr. Sigmaringen/D) is situated approximately 60 km north of Lake Constance on the western banks of the river Danube. The 3-hectare plateau of the hillfort provides an excellent view of a long stretch of the river valley, which allowed the inhabitants of the former settlement to control the movement and the trade of goods on this very important, prehistoric traffic route. The exceptional potential of the *Heuneburg* region can already be seen during the Early and Middle Bronze Age, from 1600 to 1500 BC, when the *Heuneburg* became a regional or supra-regional centre, with a densely settled environs, for the first time (Gersbach 2006; Kurz 2007, 150–7; Stegmaier 2017). The same picture can be observed during the Late Bronze Age and the following time of the Urnfield Culture from 1300 to 1100 BC. Once again the region at the Upper Danube shows a dense settlement pattern with two important hillforts and several rich graves (Reim 2010; Stegmaier 2017).

During the Early Iron Age, the *Heuneburg* developed into one of the most famous hillforts of this time, featuring numbers of rich burials and huge burial mounds in the surrounding landscape (Krausse et al. 2016). From 600 to 530 BC, the settlement reached its maximum size of more than 100 hectares. Approximately 5000 people inhabited the settlement, which could be divided into the fortified hilltop, the lower town and the outer settlement (Kurz 2010).

Beyond that, the extraordinary status of the *Heuneburg* is demonstrated by the emergence of monumental architecture like the mudbrick wall on the hilltop, with its rectangular towers, or the impressive 16 m long and 10 m wide gatehouse of the lower town, both built on precisely constructed, limestone foundations (Krausse et al. 2016, 80–2). Apart from these exceptional architectural features and the immense size of the settlement, the *Heuneburg* was an important centre of craft and trade. This can be seen e.g. in the distribution of white ground pottery for which the *Heuneburg* was the main production site in southwest Germany (Stegmaier 2016; Stegmaier in press a).

During the following La Tène period, this well-known picture of a centralized settlement pattern around the *Heuneburg* changed completely. From the Early La Tène period onwards, the hilltop remained unoccupied. Instead, fortified farmsteads emerged during the Middle and Late La Tène period in the area surrounding the former hillfort. Those so called *Viereckschanzen* are rectangular enclosures with a v-shaped ditch, an earthen rampart and a wooden palisade on top (Bittel et al. 1990; Wieland 1999c; this volume). It is most likely that these farmsteads belonged to the already mentioned social élite of the Late La Tène period. This becomes apparent from the high quality of objects and Mediterranean imports, like amphorae, or from the size of the representative buildings, which were regularly found inside of those *Viereckschanzen* (Wieland 1999c). As residences of the late Iron Age élite, they represent small seats of local power.

Focusing on the *Heuneburg* region, a strong concentration of *Viereckschanzen* in a small area becomes visible. Five of them are located within a radius of less than 5 km. Extending the radius up to 18 km, another three can be added. This extremely high density of *Viereckschanzen* is very unusual in such a small area. It underlines again the above average ecological and economic potential of this geographical region, which also would have been efficient enough to ensure the business and the daily life needs of a large-scale settlement such as an *oppidum*. Nevertheless, there is no apparent evidence to show that the local population intended to develop a central settlement (Wieland 1999b). On the contrary, the strategy was one of dispersal.

The reason for this dispersed settlement pattern, with separated *Viereckschanzen* most likely goes back to the interests of the social élite, living in those fortified farmsteads. It seems that they had, in contrast to the area of the *Heidengraben* or in other regions, no intention to build a common settlement or centre. Instead they continued to live and wield power on their own farmsteads, as local rulers.

Leaving the region of the upper Danube and having a closer look at the distribution of *Viereckschanzen* and their appearance in the area of large-scale settlements in general, it becomes clear, that Late La Tène *oppida* and *Viereckschanzen* have a mutually exclusive distribution. There is currently no known *oppidum* with a *Viereckschanze* inside its walls. It should be noted that two rectangular earthworks inside *oppida*, were interpreted as *Viereckschanzen* for a long time, but can now be differently interpreted.

The first one is a 98 m long and 66 m wide structure (Engels 1976; Zeeb-Lanz 2012, 224–5) on the summit

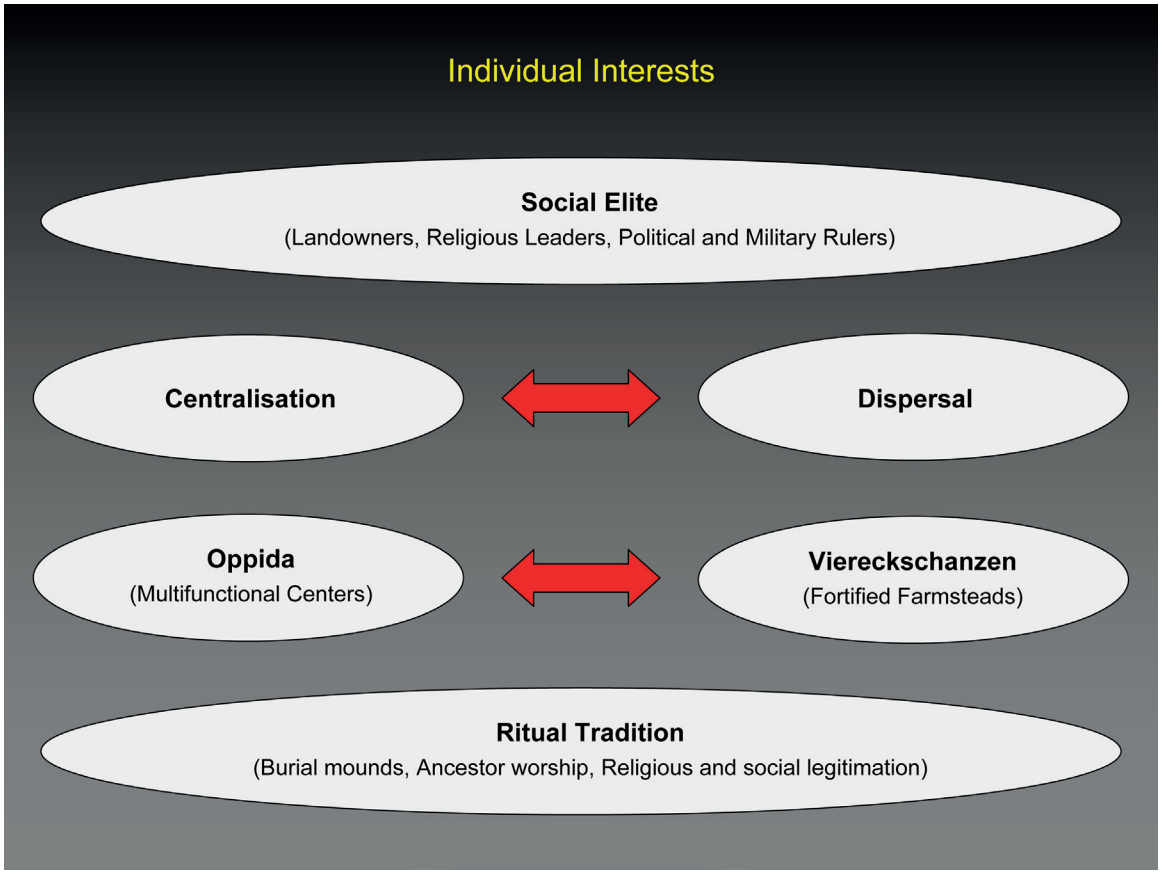


Figure 4.5. *Diagram of individual interests that influenced the process of centralization and dispersal during the Late La Tène period*

of the *oppidum Donnersberg* (Donnersbergkreis/D). The dating and function of this enclosure has always raised a number of questions and uncertainties. As new research in the Rhine-Mosel region, France and Luxembourg has shown (Krausse 2006, 146–230; Fernández-Götz 2014a; 2014b), this enclosure should be no longer regarded as a *Viereckschanze*. It rather shows a lot of parallels to the Iron Age assembly places which are e.g. well known from the *Martberg* (Lkr. Cochem-Zell/D) or *Bibracte* (Dép. Sâone-et-Loire/F), always positioned on the highest spot of the *oppidum* (Fleischer & Rieckhoff 2002; Nickel et al. 2008).

Another rectangular enclosure, which was long thought to be a *Viereckschanze*, lies inside of the already mentioned *oppidum Heidengraben* (Fischer 1979, 140–3). Positioned on the highest point of the Late La Tène settlement, it could also have been an area with a ritual or assembly function during the Late Iron Age. In actual fact, the ramparts and the ditch date to the 18th century AD, when the structure was built to ensure the defence of the nearby castle *Hohenneuffen*.

In summary, it is highly unlikely that *oppida* and *Viereckschanzen* occurred together at the same place in southwest Germany. They were founded with different motivations, probably on the basis of different interests of the Late Iron Age élite (Fig. 4.5). At the same time, there are many parallels between the function and foundation of *oppida* and *Viereckschanzen*. One is the ritual tradition which was important for the legitimation of both settlement types.

An impressive example of this can be found in the *Heuneburg* area. As mentioned before, the landscape here is characterized by a large number of burial mounds, of which most date to the Early Iron Age (Kurz & Schiek 2002). The so called *Hohmichele* is the largest, with an unusual height of 13.5 m and a diameter of 78 m (Riek & Hundt 1962; Kurz & Schiek 2002, 77). A *Viereckschanze* was founded in the Middle or Late La Tène time (Hansen et al. 2015, 510–14; Hansen 2016) directly beside this monumental burial mound. Similar phenomena are known from several other regions where *Viereckschanzen* also occur next to older burial mounds (Bittel 1978; Schiek 1982; Bittel et al. 1990; Wieland 1999c).

The close connection and relation of these features leave little doubt that the tumuli served as loci for the veneration of ancestors and as symbols for a spiritual legitimation of the people living and wielding power there during the Late La Tène time. The founders of the *Viereckschanzen* surely wanted to show that they were the inheritors and descendants of the heroic ancestors, buried in those Early Iron Age mounds.

Conclusion

Drawing on the evidence of these two trajectories, two different models of settlement development can be described for the Late Iron Age in southwest Germany. The first is characterized by a process of centralization and leads to the foundation of large-scale settlements such as *oppida* during the second half of the second century BC. The driving forces are economics, socio-politics, ritual traditions and individual interests. The second type of settlement pattern can be seen as a process or rather a state of dispersal, based on self-sufficient units, which are represented, in southern Germany by the manor-like *Viereckschanzen*. As residences of the late Iron Age élite they functioned independently. However, a dense cluster of such settlements, as can be seen in the *Heuneburg* region, may have worked together to form an alternative system in competition with the centralized settlements of the *oppida*.

Acknowledgements

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Part 2
The rural dimension

Chapter 5

The rural contribution to urbanism: late La Téne *Viereckschanzen* in southwest Germany

Günther Wieland (Esslingen)

The function and cultural context of the so called *Viereckschanzen* has been investigated by archaeologists for more than 150 years. These characteristic quadrangular fortifications are known from Bohemia to southern Germany, and northwards to the Upper Rhine and eastern France. Only a very few *Viereckschanzen* have appeared in northern Switzerland and north of the River Main. Within Baden-Württemberg, the focus of this article, there are over 200 known structures of this particular type. The number of known examples is constantly growing as a consequence of aerial archaeology and Airborne LiDaR (Bittel et al. 1990).

The *Viereckschanzen* are contemporary both to the proto-urban *oppida* and to other rural settlements of the Middle and Late La Tène period in the second and first century BC (Wieland 1996, 37–54; Wieland 1999a; Büchsenschutz & von Nicolai 2012). The most characteristic feature is, of course, the square to rectangular shape (Figs. 5.1 and 5.2), often accompanied by at least one rectangular corner. The dimensions of the sides of the structure range between 80 and 120 m, where only a few *Viereckschanzen* have dimensions that exceed 150 m. Running parallel to the exterior of the rampart, there is a V-shaped ditch which surrounds the whole structure. In front of the gate, there is no interruption to the ditch, which highlights an obvious difference to Roman fortifications.

The rampart is only built with earth, without any kind of internal reinforcements in wood or stone, but some traces of a fence or palisade have been found on top of the rampart. The ditch has pronounced angular corners (not rounded as they are at Roman forts, which is an important feature for the identification of *Viereckschanzen* by aerial archaeology (Wieland 2006). The regularly documented increased height of the rampart corners is not intentional, but simply the effect of accumulating earth from two converging ditches. We know that the gateway never opened to the north – perhaps for ritual reasons (Fig. 5.2). Inside the *Viereckschanzen,* we have a number of standardized buildings, often of very similar shape (which could imply a similar function) and similar arrangements of buildings. One building can be identified as the main building, and this usually lies opposite the gateway near the back rampart (Berghausen 2014).

Research on *Viereckschanzen* began early in the first half of the nineteenth century. Most scholars thought of them as Roman forts because of their regular shape. For the first time, in 1899, after an excavation in *Gerichtstetten* in northern Baden-Württemberg, K. Schumacher put *Viereckschanzen* in their right temporal and cultural context (Figs. 5.3 and 5.4). Remarkably, Schumacher had already considered various alternative functions such as a fortified grain storage facility, but also considered religious uses (Schumacher 1899).

The ritual function has become increasingly prominent since the 1930s. The research and excavations by K. Schwarz in *Holzhausen* near Munich in Bavaria in the 1950s and 1960s particularly led to the interpretation of *Viereckschanzen* as sanctuaries. Approximately 30 m deep shafts within the *Holzhausen* structure were crucial for this interpretation, since they have been understood as sacrificial pits (Schwarz & Wieland 2005). As a consequence, the uniform appearance of the *Viereckschanzen* and other structures were all interpreted as indicative of a special form of *Celtic* sanctuary (Reichenberger 1995). Indeed some other characteristics could very well be explained from a religious perspective (for example the vicinity to older grave mounds), but there are also other possibilities of interpretation.

It is important to acknowledge that currently there is no complete excavation of the interior of a *Viereckschanze*. Later investigations showed that, even in *Holzhausen*, there were also remains of a main building deduced from the presence of large post-holes.

Figure 5.1. *Aerial view of the well-preserved* Viereckschanze *of* Westerheim *(Alb-Donau-Kreis, Baden-Württemberg). (Archiv Landesamt für Denkmalpflege, Photo: O. Braasch).*

So, in this case, the reconstruction of the structure as an enclosed sanctuary, with no buildings inside, was based on insufficient data. The most common current reconstruction of *Viereckschanzen* as fortified farms is based on extensive and complete excavations, for example at *Ehningen*, *Bopfingen-Flochberg*, *Riedlingen*, *Nordheim* and *Beuren* (Krause & Wieland 1993; Neth 2000; Bollacher 2009; Ambs 2011) during the 1980s and 1990s. It has been shown, that several buildings are regularly placed in the interior: a large main building is typically placed opposite the entrance, and further adjoining buildings are located beside or in the corners (Fig. 5.7). Excavations at *Fellbach-Schmiden* during the 1980s have proved that the mysterious sacrificial shafts are actually wells. Wooden ladder rungs have been discovered in the shaft of *Fellbach-Schmiden*. The shaft was accessible, and the identical construction is well known from Roman wells. The wooden posts found during earlier excavations in the shafts (e.g. *Holzhausen* and *Tomerdingen*) have been suggested to be ritual posts, but could be interpreted as parts of the wooden construction for lifting water buckets out of the well (in German these are called *Stangenziehbrunnen*, Wieland 1999a, 44–53). For these reasons, scholars have returned to the interpretation of the structures as fortified farms and as a kind of functional precursor to the Roman *villae rusticae*, as already intimated in 1899 by K. Schumacher and in the 1920s by K. Bittel (Schumacher 1899; Bittel 1934, 99–105; Wieland 2001).

On the basis of these extensive excavations, our picture of the *Viereckschanzen* has completely changed. It is now clear that these structures are typical features of the rural settlement patterns of the Late La Tène period in southern Germany and they represent, in their appearance, an old and established form of settlement: a rectilinear enclosed farmstead (the so called *Rechteckhof or Herrenhof*), already well known since the Late Bronze Age and especially from the Hallstatt period in southern Germany. Of course, these early types of enclosed farmstead are different in some details from the *Viereckschanzen,* but may have been quite similar in function.

Other forms of rural settlement also existed: we know traces of open rural settlements without fortification and very small farmsteads (Wieland 2001). Rural settlement of the period has turned out to be much more complex than originally thought. These

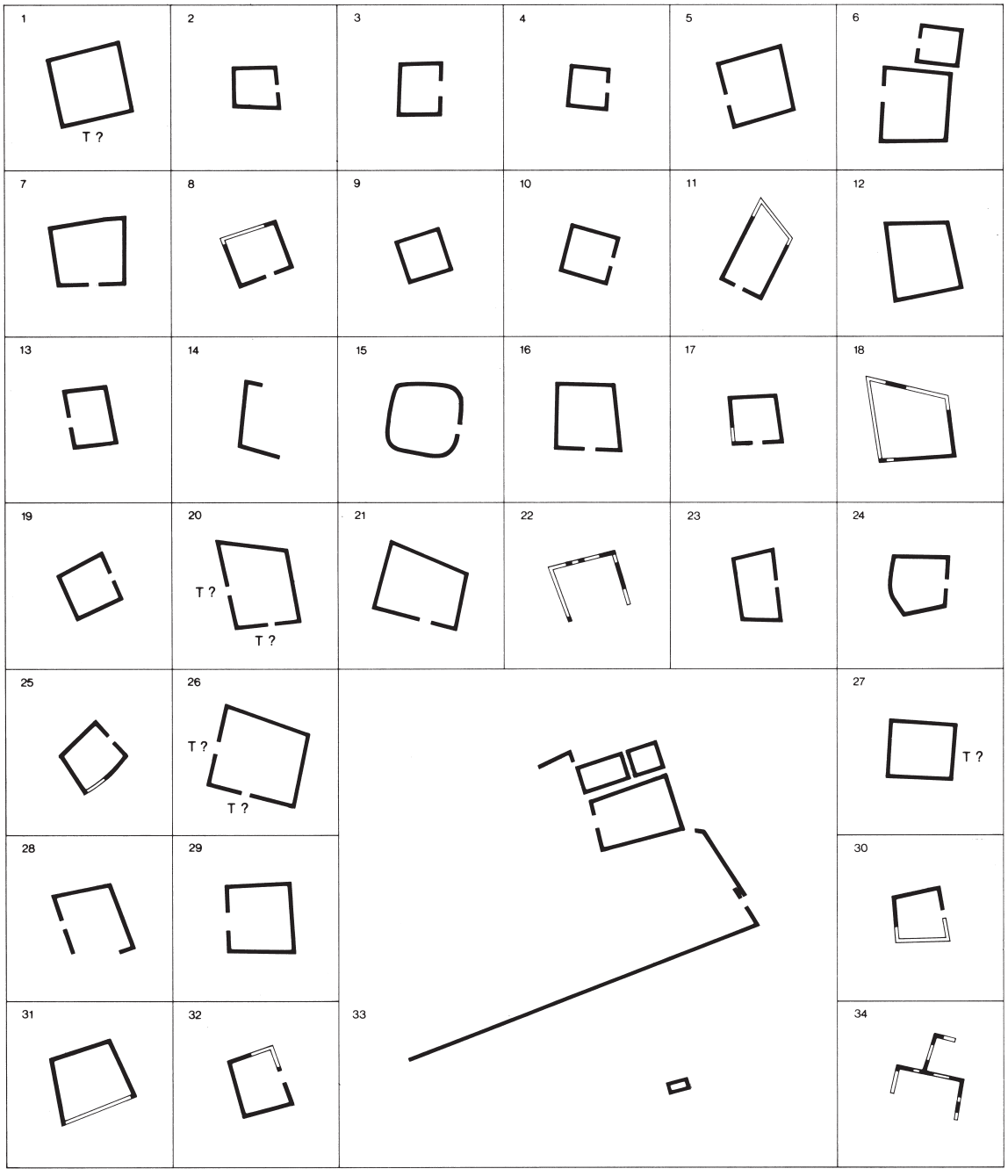

Figure 5.2. *Ground plans and orientation of Viereckschanzen (examples from Baden-Württemberg). North is above. (From: Bittel et al. 1990, 26 Fig. 10a).*

settlement structures are only to be found in very large-scale excavations, for example in the case of large excavations along new highway and railroad routes (Thoma 2011; Thoma 2012a, Thoma 2012b). It is noticeable, however, that such settlements are now increasingly found in close proximity to Roman settlements and farms, leading to the question of settlement continuity between Roman and earlier features (Rieckhoff 2002; Peters 2004; Zanier 2004; Wieland 2004; Wieland 2011; Rieckhoff 2012; Keller 2015, 278–88). This does not necessarily indicate settlement continuity without hiatus, but it is clear that the rural settlement patterns and the farming practices in Late La Tène and Roman times in southern Germany

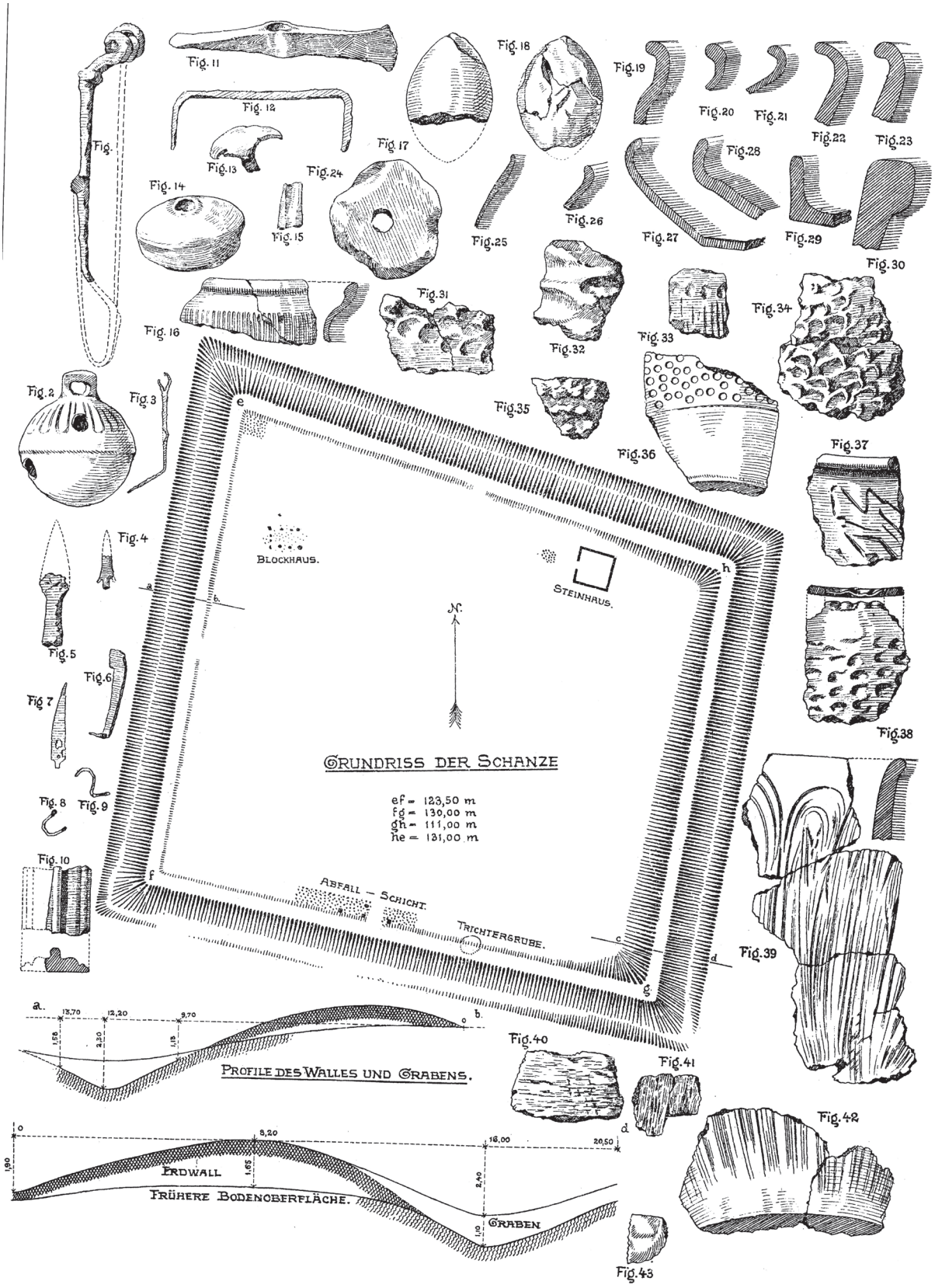

Figure 5.3. *Plan and drawing of the finds from the excavation of K. Schumacher at the* Viereckschanze *of* Gerichtstetten *(Hardheim, Neckar-Odenwald-Kreis, Baden-Württemberg). (From: Schumacher 1899, plate 1).*

Figure 5.4. *Example of a very well-preserved rampart (height of about 2.5 m) belonging to a* Viereckschanze *at* Gerichtstetten *(Hardheim, Neckar-Odenwald-Kreis, Baden-Württemberg). (Photo: G. Wieland).*

were quite similar: *Viereckschanzen* and Roman *villae rusticae* belong to the same type of farmstead. We can now assume that the *Viereckschanzen* are the most typical form of the late Iron Age rural settlement in southern Germany.

The previously favoured interpretation of *Viereckschanzen* as sanctuaries could not be verified in later excavations. However, there is undoubtedly a need and a place for ritual and related practices inside settlements, but this does not justify a narrow restriction of function. Instead of the former discussion 'only ritual' – or 'just settlement' we should consider a range of functions, that includes different dimensions, ritual and secular (Venclova 1998; Wieland 2006b). The *Viereckschanzen* are **multifunctional** and we can name three main functional components (Fig. 5.5)**: Enclosure** (fortification and representation), **central place** for the surrounding area (storage place (e.g. for seed grain and commercial goods), market place, a place for ritual and religion, for court hearings, for meetings) and **settlement**, (organization and management of agriculture, water supply by wells, residences of the social élites).

Within the enclosures, we can also see a temporal development, namely a transition from fence to rampart, which means, that in some *Viereckschanzen* we have found a stratigraphic relationship between simple fences, comprising the first enclosures, and ramparts, ditches and solid built gateways which replaced them. This transition could imply **fortification** in reaction to uncertain political and social conditions and/or external threats, and/or new forms of **representation** that demonstrated the power of the local social élites.

One interpretation is that the fortification had a similar function to the large ramparts of the *oppida*, but that this was realised on a smaller scale. The fortification character may also have been intended but not fully implemented. It is possible that the fortification

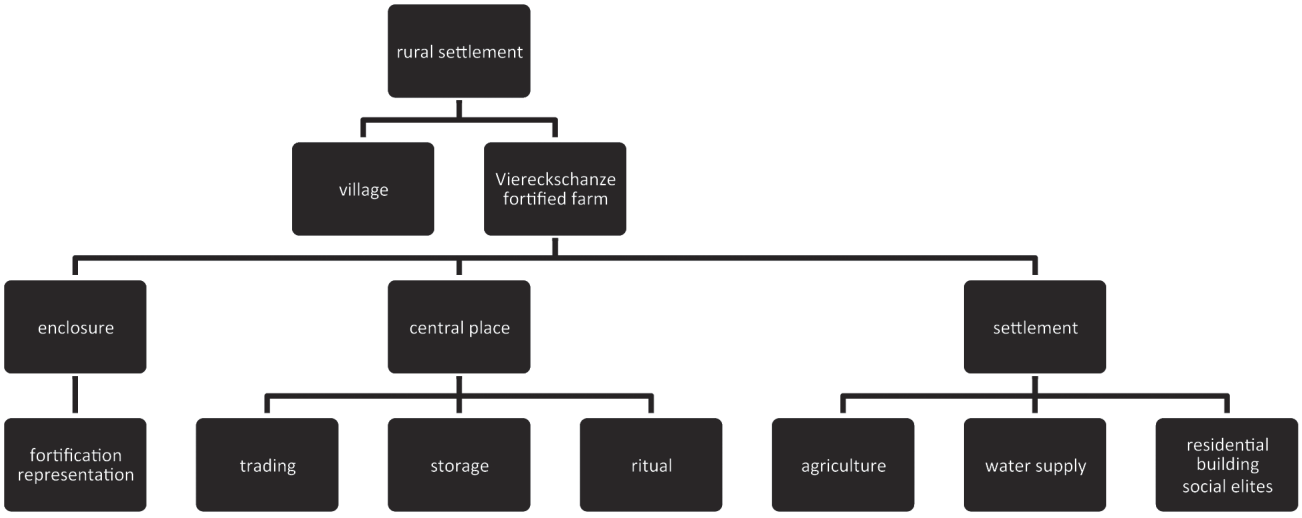

Figure 5.5. *Range of functional aspects of the* Viereckschanzen.

character was intentional, but that a *Viereckschanze* was not built according to simple principles of fortification. The compromise between these two functions – fortification and representation – could have produced an intermediate outcome. Another detail is that some *Viereckschanzen* have large extension ramparts (*Annexschanzen*) which suggest either a kind of settlement extension (although we only have very few traces of buildings inside) or simply a livestock enclosure. The dimensions of these ramparts can be very impressive for a rural settlement. The example of *Könighеim-Brehmen* shows (Fig. 5.6) a large extension rampart with a length of 600 m. At present, there is more evidence, that these large extensions have enclosed areas for agriculture – livestock enclosures, pastureland or arable land – than they contained dwelling houses.

The function of a *Viereckschanze* as a **central plac**e links the structure to its environs, particularly pointing out a relationship to smaller settlements. In this connection, we should mention, that, inside most *Viereckschanzen*, the buildings are arranged in such a way that a free space was created in the middle (Fig. 5.7) (Wieland 1999c; Berghausen 2014) – this could have been a type of storage place and/or market place for commercial goods and also a place for ritual and religion, for court hearings and meetings. This leads us to consider the possible functions of buildings within these structures. The quadrangular four-post-buildings in the *Viereckschanzen*, for example, are well known as storage buildings for grain from a lot of prehistoric settlements, but they are also quite similar to sanctuary buildings, for example within the *Martberg oppidum*. So we must assume that the same building form may have had different functions. We find also examples of small huts for crafts, barns and also simple dwelling houses.

The building, which is placed opposite the entrance, is always distinguished in its layout from the other buildings, both in terms of its size and its apparently standard location within the enclosure. So we have good reasons to identify this as the main building of the *Viereckschanze* and most probably the residence of the élite. Firstly, some of the objects found there, for example the fragments of imported wine amphorae, were typical luxury goods of the local élite. Other evidence of agricultural tools, animal bones and household appliances show that the occupants were in charge of agricultural production, and the wells demonstrate the importance of a permanent water supply. The prominence of these finds is connected with the major advances in agricultural intensification and organization during the Late La Tène period.

One of the most important functions of a central place was probably as a **place for ritual and religion** – with the proviso that in prehistory ritual and religion were embedded more thoroughly in everyday life than today. Religious practices would have been present in any kind of settlement. The three famous wooden sculptures found in the well of the *Viereckschanze Fellbach-Schmiden* belong to this religious context, even if their precise context is not clearly known. All three sculptures have the same arrangement and it is highly probable that this wooden artwork had a religious function. The assemblage had been destroyed and thrown together with burned wooden architectural elements into the well – an indication of the complete destruction of the buildings by a fire. The shaft of

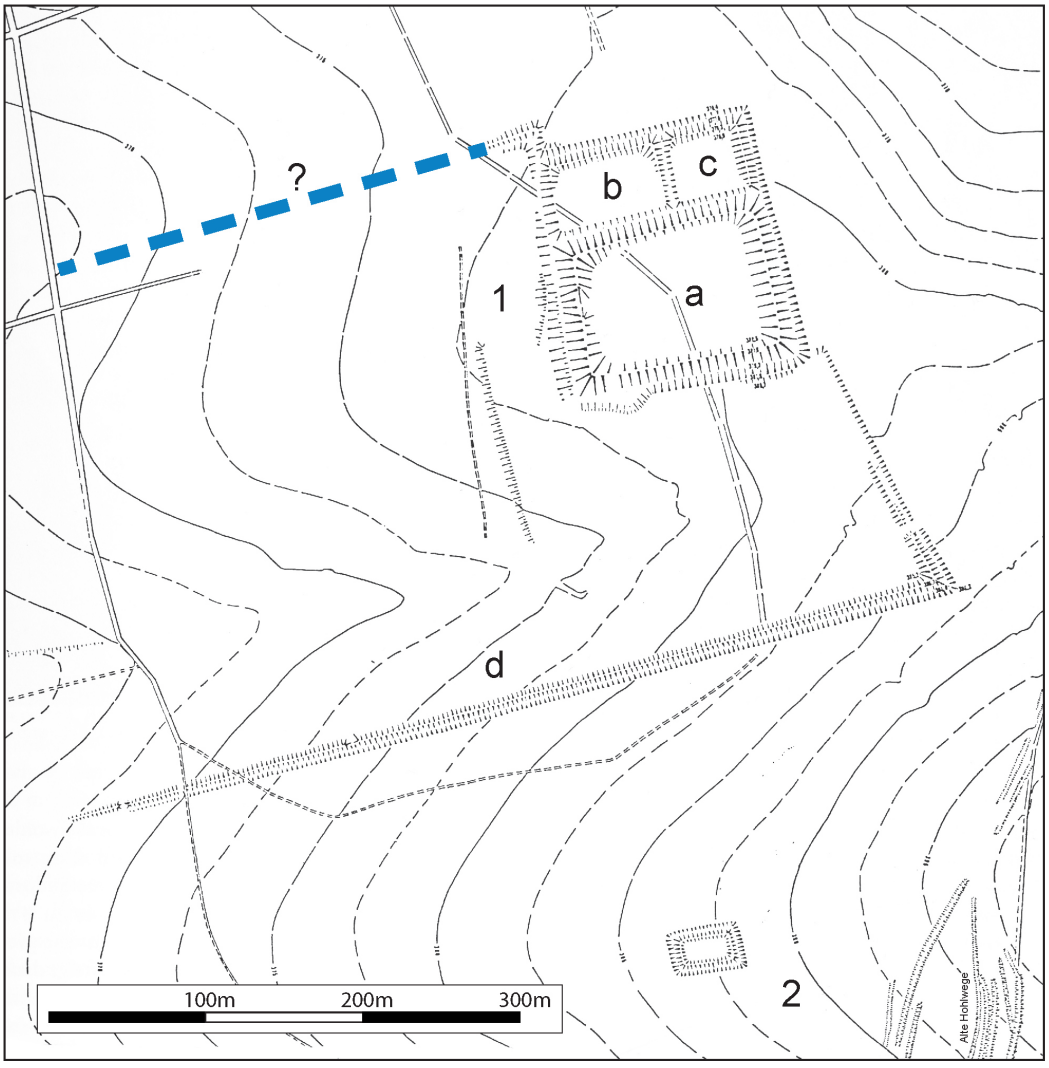

Figure 5.6. *Plan of the* Viereckschanze *of* Königheim-Brehmen *(Main-Tauber-Kreis, Baden-Württemberg). a: Central* Viereckschanze, *b & c: small extensions, d: part of large extension rampart (from: Bittel et al. 1990, 213 Fig. 122 with additions. Graphic: LAD, Y. Stahl).*

the well was later back-filled (Planck 1982: Wieland 1999a). Objects like the *Schmiden* wooden sculptures show us, that ritual and religion must have been part of a *Viereckschanze*'s function, but they are no proof of the interpretation of the whole site as a sanctuary (Wieland 2006b).

Since the 1930s, the proximity of *Viereckschanzen* to earlier burial mounds has often been pointed out as an argument for their interpretation as sanctuaries (Bittel 1978). A funerary function was inferred, because of the almost complete absence of Late Iron Age burials in southwestern Germany. However, recent excavations, for example in the site at the Early Iron Age *princely* burial mound *Hohmichele* near the *Heuneburg*, did not indicate any such a function – the finds, mostly coarse handmade pottery, show the same range of types as in other *Viereckschanzen* (Hansen et al. 2015).

Another interpretation has far more plausibility, following the thesis of Holger Wendling (Wendling 2016): The placing of a fortified farmstead near older burial mounds may have had the intention of legitimation of land ownership, closely connected with ancestral veneration. Broadly similar situations occur with Roman *villae rusticae* where Roman burials are often found in the older indigenous burial mounds.

One extraordinary burial contradicts the pattern of absence of Late Iron Age burials in southwestern Germany and provides a direct connection to the function of the *Viereckschanzen* as the residences of Late Iron Age élites. In 1865, a rich burial was discovered near

Figure 5.7. *Plan of the excavated* Viereckschanze *of Ehningen (Kr. Böblingen, Baden-Württemberg). The buildings are arranged in a triangular shape. The building opposite the gateway could be considered as main building (from: Wieland 1999, with additions. Graphic: LAD, Y. Stahl).*

Sinsheim-Dühren in the north of Baden-Wuerttemberg. The objects (metal mirrors, glass bracelets, glass and amber beads, bronze and silver fibulae, and bronze vessels) belonged to a female burial of the Middle or beginning of the Late La Tène period (Lt C2/D1), contemporary with the period of the *Viereckschanzen*. The *Dühren* burial remains a highly unusual phenomenon in southwestern Germany, both in terms of its richness and in the origin of the extraordinary objects. Undoubtedly it was the burial of a member of the Late Iron Age élites. Later research of Karl Schumacher in 1889 localized the exact position of the grave and uncovered parts of a ditch, filled with soil and traces of charcoal. It had much bigger dimensions than the well-known contemporary enclosures from the Rhineland, so, as Schumacher already assumed, the ditch could easily have belonged to the enclosure of a *Viereckschanze*.

Further geophysical and archaeological research in 2006 by the Landesamt für Denkmalpflege Baden-Württemberg and the Institute for Geography of the University of Heidelberg led to the evidence of a typical V-shaped ditch of a *Viereckschanze* in its entire extent. The rich woman's burial was originally placed within

the enclosure, most probably covered by the rampart (Spohn 2009; Wieland 2009). The grave may have been placed inside an older (palisade enclosed) site or intentionally under the rampart during its construction. Of course, this could have led to its understanding as a kind of ancestral cult or worship and direct connection between burial and settlement.

An additional interesting issue is that of the potential interdependence of *oppida* and *Viereckschanzen*. There is so far no evidence of the spatial coexistence of the *Viereckschanzen* and *Oppida*. There is also no conspicuous spatial concentration of *Viereckschanzen* in the immediate vicinity of the large O*ppida* in southwestern Germany, rather the opposite can be observed (Stegmaier, this volume 46–8): we have such spatial concentrations at a greater distance from the *Oppida,* especially in regions with best conditions for agriculture (e.g. at the Upper Danube Valley near the *Heuneburg* or in the Middle Neckar Valley Region). We do not know very much about the organization and forms of agriculture inside and outside the *oppida* and if there has been a significant difference to the agriculture of rural settlements. This is connected to the question of the foundation or the development of an *oppidum.* Perhaps the *oppidum* initially was a kind of spatial concentration of rural settlement, attracting specialized crafts and trade? Of course we also have to consider other factors, for example the significance for ritual and religion (as proposed by Manuel Fernández-Götz 2014d). Undoubtedly there are quite significant differences in the composition of the materials found in *oppida* and rural settlement. For example, the percentage of hand-made pottery is much higher in *Viereckschanzen* than in the *oppida*, since the wheel-turned fine pottery was made by specialized craftsmen in the large settlements. Another factor is that almost no coins have been found in the *Viereckschanzen*, raising the question of whether a monetary economy was limited to the *oppida*. On other hand, we have some finds of luxury goods in *Viereckschanzen*, from which we can infer the presence of élites. Finally we should consider that these fortified farms may have had a central function on a local level. From this perspective, a group of neighbouring *Viereckschanzen* – as a kind of 'administrative association' – could have had similar central functions to an *oppidum*.

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I would like to thank Henrik Junius for corrections and Simon Stoddart for corrections and the final preparation of the text, as well as for the invitation to the DAAD workshop in Cambridge in November 2016 and the constructive discussion of my paper.

Part 3
The funerary dimension

Chapter 6

Burial mounds and settlements: the funerary contribution to urbanism

Ines Balzer (DAI Rome)

Preface – some critical remarks addressed to the archaeological sources

'Urbanism is the study of the characteristic ways of interaction of inhabitants of towns and cities (urban areas) with the built environment. It is a direct component of disciplines such as urban planning (the physical design and management of urban structures) and urban sociology (the study of urban life and culture). […] Urbanism can be understood as place-making and the creation of place identity at a city-wide level. However as early as 1938 Louis Wirth wrote that it is necessary to stop "identify[ing] urbanism with the physical entity of the city", to go "beyond an arbitrary boundary line" and consider how "technological developments in transportation and communication have enormously extended the urban mode of living beyond the confines of the city itself".' [https://en.wikipedia.org/wiki/Urbanism – 01.08.2017]

The sometimes maligned Wikipedia thus addresses in the definition of urbanism very succinctly and effectively, showing its centrality in modern popular life. What is urbanism? Can we use the term also for prehistoric times? When did it start? In the 1980s, *oppida* were seen as the 'first towns northern the Alps' (Collis 1984). In the last decade, the state of research has changed radically and so has the definition of the term urbanism. Meanwhile, the so-called *princely seats* (*Fürstensitze*), namely (and mainly) the *Heuneburg*, are now considered the first towns.

In this paper, I do not intend to give a definition of urbanism or towns, nor to discuss if it is indeed the right way to describe these prehistoric phenomena of the nucleation of population. My task instead is to raise the question of whether funerary traditions reflect trends in settlement. This question can be inverted by asking whether special settlement phenomena were accompanied by particular burial customs.

One of the main problems in prehistoric archaeology is the limitation of the archaeological sample. A key issue is the modern condition of archaeological data, including the degree of preservation and the current state of research: Burial mounds and fortified settlements are usually in a better state if they are situated in woodlands than in agricultural landscapes, whereas flat grave cemeteries are more easily discovered in agricultural and built environments. Burial mounds have often not been excavated completely and consequently to an unsatisfactory level. In addition, especially in the past century, the recovered evidence has not been well documented and evaluated, so dating and linkage to potential settlements are often not possible. In a similar way, earthwork sites, such as fortified settlements on hills, are discovered more easily than agricultural settlement in the lowlands.

The lack of written evidence prevents us from associating settlements with their cemeteries. We cannot establish the cultural practice of the preferred distance from, and the considered need for visual contact with, the parent settlement. In spite of these difficulties, we can make an informed assessment of these associations from the topography, intervisibility, proximity and shared material culture.

A key question remains: how can 'urbanism' – whatever it means – express itself in funerals? Furthermore, do changes in grave goods relate to a changed social stratification, and is this a pre-requisite for 'urban' settlements?

In this paper, I do not intend to resolve this problem. Nevertheless, I will undertake a broad survey from the eighth to first century BC, with a special focus on the outstanding *princely* burials and settlements of the early Iron Age societies in south Germany. It seems that especially at the sixth century BC in Central Europe, specific *Celtic* burials were connected to a phenomenon (Posluschny this volume; Nakoinz this volume) which is

nowadays called *princely*, in the German literature. The *princely* phase is considered a kind of 'pre-urbanism', especially in the case of the *Heuneburg* on the upper Danube (e.g. Krausse et al. 2016). However, first we will examine the beginning of the Hallstatt period.

Eighth to the beginning of the sixth century BC (Ha C/D1): huge tumuli – but where are the settlements?

Only a few burials are known from Hallstatt C in south Germany, where they seem to represent the local élite. These remarkable tombs were normally found under burial mounds no larger than 30 m in diameter. In Germany, the most notable examples are *Wehringen-Hexenbergle* mound 8 (with a dendro-date of 778±5 BC the oldest one. Summarized in: Augstein 2017), *Frankfurt-Stadtwald Eichlehengruppe* Tumulus 1, Tomb 12 (Hessen; see Fischer 1979; Willms 2001), *Otzing* (Lower Bavaria; Classen et al. 2013; Gebhard et al. 2016), *Großeibstadt I and II* (Franconia; Kossack 1970; Wamser 1981) and *Gomadingen-Steingebronn Untere Hart* Tumulus 1 (Baden-Württemberg; Zürn 1987, 124–33, Fig. 223–28). These burials differ from other tombs by the inclusion of a huge number of well-decorated, locally produced, pottery vessels, a knife or sword, bronze vessel(s) and often also a four-wheeled wagon, yoke and snaffle bits. In some cases, the handle of the sword or the knife is worked with a fine inlay of gold (e.g. *Gomadingen*; *Frankfurt*).

In every case, the associated settlement cannot be identified, and might have been a small hilltop settlement or a farmstead in the valley bottom. The remarkable burial mound of *Remseck-Neckarrems Am Schwaikheimer Weg* near Stuttgart could be a deliberate landmark, because it is placed near a bend in the river Rems and possibly near a crossing place (Biel 1980). The grave-goods included eight ceramic objects, an iron sword, a bronze basin with iron handle and a tweezer.

The prominent trend in Ha D1 (*c*. 620 – 580/70 BC) was the construction of huge, isolated burial mounds, sometimes over 100 m in diameter (for dimensions: see Pare 1992). Very well-known examples are the enormous grave mound of the *Magdalenenberg* near Villingen-Schwenningen in the Black Forest (Baden-Württemberg; summarized in Spindler 1999; and more recently covered in Koch and Schmidt 2015), the *Bürgle* of March-Buchheim surviving today to nearly 120 m in diameter (Pare 1992; most recently covered in Koch and Scholz 2015) in the southern Rhine valley (Baden-Württemberg) and the *Hohmichele* (Riek & Hundt 1962) near the *Heuneburg* (Sigmaringen, Baden-Württemberg). Only the *Magdalenenberg* was completely excavated, between 1970 and 1973. The 126 secondary burials, which are arranged concentrically around the central grave chamber (Fig. 6.1), offered a multifaceted insight into a society existing between circa 620 and 580 BC, that seemed to be organized along lines of gender and age (e.g. Müller 1994).

Unfortunately, in the most cases, the central chamber of these tumuli has been robbed in prehistoric times, and even the enormous 8 × 6.5 m. wooden chamber of the *Magdalenenberg* had suffered this fate, although leaving enough evidence to date the well-preserved timbers to 616 BC by dendrochronology. It was an excavation of 1976 at *Kappel* near the Rhine (Baden-Württemberg) in a slighted burial mound of *only* 38 m in diameter, which showed the intact interior of an exceptional Ha D1-grave for the first time. *Kappel* had long been known because of extraordinary objects of gold discovered in the eighteenth century in Tumulus 1. Burial mound 3 was then excavated in 1976 with modern methods, followed up in the laboratory (Dehn et al. 2005). The central wooden chamber measured 3 × 4.2 m. The grave-goods were in an extremely poor state of preservation such that the metal and ceramic objects were reduced to dimensions of a few centimetres, necessitating a painstaking but immensely profitable conservation programme of some 30 years. The final restoration and reconstruction (Fig. 6.2) revealed a 1.10 m high *Kurd type* bronze *situla* which stood in a cauldron (31 cm high and 64 cm in diameter). A drinking horn, three iron knives, a basket and bronze vessels (e.g. nine cists, bowls and a bronze flagon) were deposited in the *situla*. Two large, locally produced, ceramic vessels were placed in the western part of the chamber. A wooden wagon, with four removed wheels and two harness bridles, was positioned at the southern side of the chamber. A neck ring, brooches, two iron spearheads and an iron Hallstatt dagger in a scabbard specified the former position of the skeleton, which had completely disappeared. This funerary set – a dismantled four-wheeled wagon in one part of the grave chamber and tableware sets on the other side – persisted in Central Europe for 100 years, until the end of Ha D3/beginning LT A. The *Kappel* assemblage shows strong contacts with Eastern Bavaria and the southern alpine area, north Italy and perhaps Slovenia (Dehn et al. 2005, 252–8). Once again we do not have any clear idea of the associated settlement. One claimant is the *Münsterberg of Breisach*, but the considerable distance of over 35 km places it at too great a remove from the burial site (see also Dehn et al. 2005, 307). The *Mahlberg*, only 5 km away, has been suggested as a possible *Fürstensitz* (Dehn et al. 2005, 306–8), but any evidence of Iron Age occupation has yet to be detected. The *Magdalenenberg* is often associated with the *Kapf,* a small hillfort which controls the

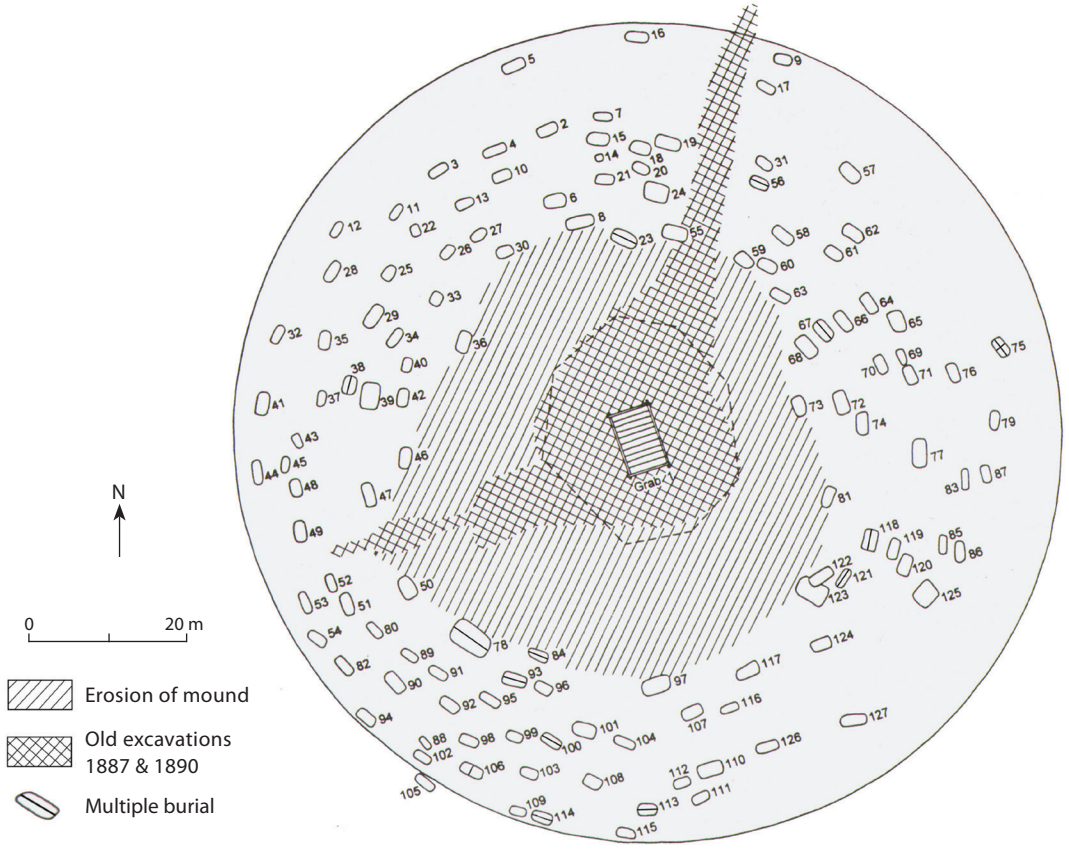


Figure 6.1. Magdalenenberg*: location of the central chamber and the secondary burials (Koch & Scholz 2016, after K. Spindler).*

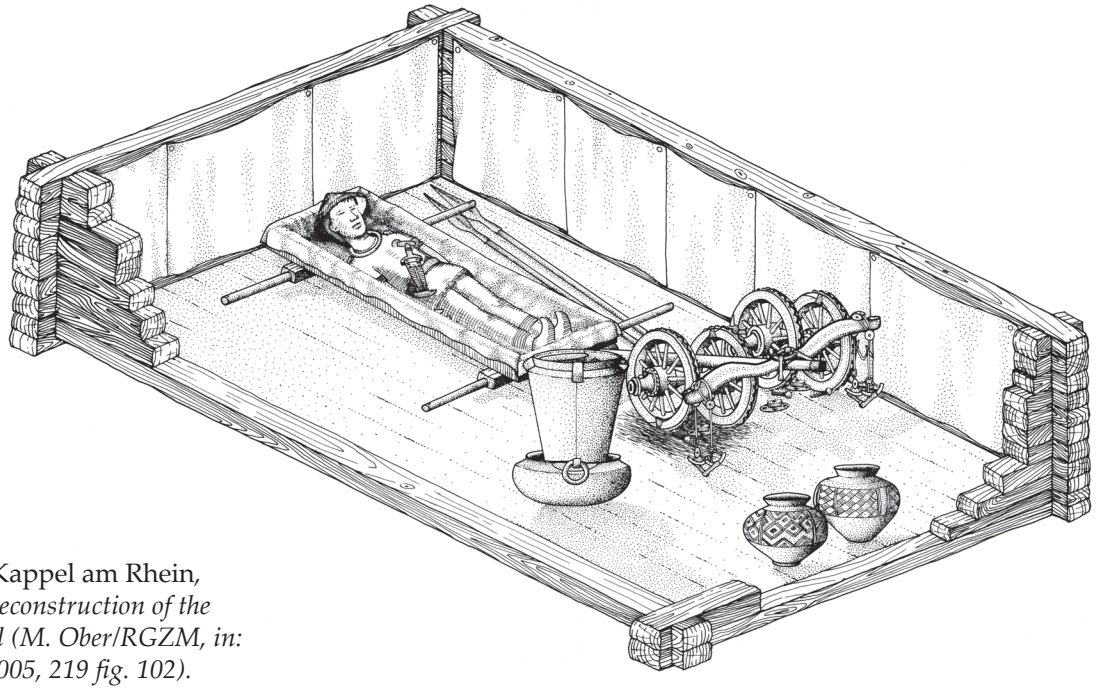


Figure 6.2. Kappel am Rhein*, Tumulus 3: reconstruction of the Ha D1-burial (M. Ober/RGZM, in: Dehn et al. 2005, 219 fig. 102).*

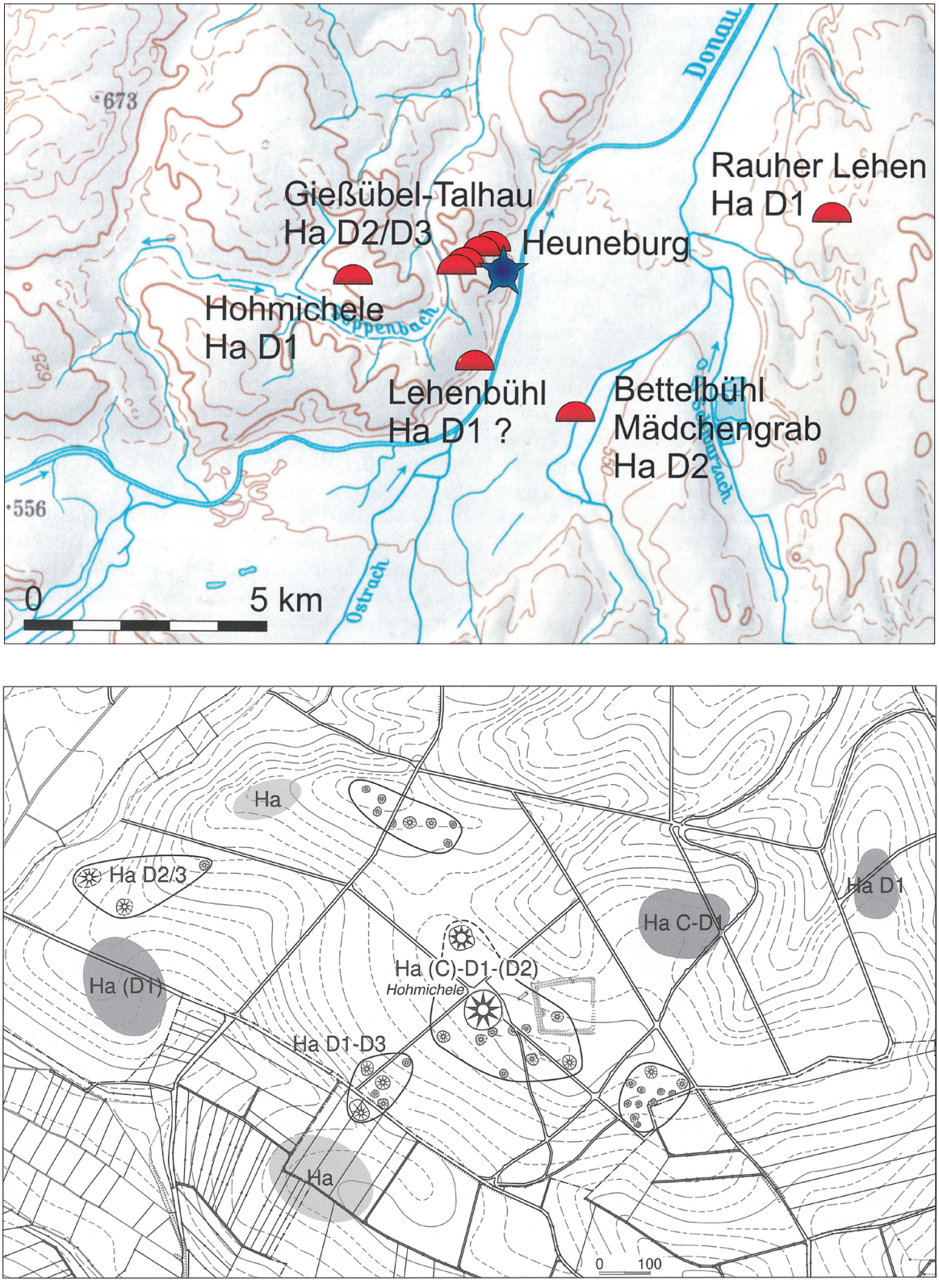


Figure 6.3. *Top: Burial mounds of Ha D1 to Ha D3 in the region of the* Heuneburg *(selection). (Landesamt für Denkmalpflege im RP Stuttgart/Krausse 2008, 438 fig. 3). Below: The* Hohmichele *and other burial mounds and traces of settlements nearby (Landesamt für Denkmalpflege im RP Stuttgart/Kurz 2007, 167 fig. 94)*

confluence of the rivers Kirnach and Brigach (Hübner 1972. See also: Knopf 2012). A settlement has yet to be detected near *March-Buchheim*.

The only case where a burial mound can be reliably associated with a settlement is the *Hohmichele*. The construction of this enormous burial mound is near *Heuneburg* and the so-called *Außensiedlung* (Kurz 2000), which already showed in Ha D1 the character of a *princely seat*. However, even here the association is not as clear-cut as it seems (Fig. 6.3). It was Siegfried Kurz who pointed out that there were other settlements of Ha D1 in the neighbourhood (Kurz 2007, 161–7 Fig. 94).

Hundersingen Heuneburg (Ldkr. Sigmaringen; Baden-Württemberg): Ha D1

The *Heuneburg* is situated at 605 m above sea level, set about 60 m above the Danube River and offers a wide view even of the Alps. At less than three hectares in size, the main fort is one of the smallest *princely* hillforts. Excavation has taken place regularly since 1950, and shown a total sequence of 23 phases over nine archaeological periods from the Middle Bronze Age to the Middle Ages (summarized in Krausse et al. 2016, especially page 41 fig. 31). For the purposes of the current discussion, the crucial elements of the chronology are that Ha D1 corresponds to *Heuneburg* periods IVa/1 to IVc; Ha D2 to the periods IIIa to IIIb; Ha D3 to the periods Ia to II. Ha D1 is already marked by the famous mudbrick wall, defensive towers and the import of foreign knowledge, showing connections with the south, as well as the first monumental burial mounds: e.g. the *Hohmichele* (Riek & Hundt 1962), located about 3.5 km west of the *Heuneburg*, the *Rauher Lehen* and the recently discovered *Bettelbühl*, with spectacular finds (summarized in Krausse & Ebinger-Rist 2016; see also: http://keltenblock.de/). Some fragments of gold, found on the *Heuneburg* plateau, seem to be similar to those of the graves (Hansen et al. 2015). Intensively populated settlements are known on the fortified *Heuneburg*, at the walled so-called *Heuneburg-Vorburg* and at the *Außensiedlung*, which, at more than 100 ha, is much bigger than the hillfort itself. The *Außensiedlung* was subdivided by a v-shaped ditch and a bank (Fig. 6.4) into separate sections, which have interpreted as representing a community of related people organized according to a segmentary lineage-system. Each section of 1–1.5 hectares comprised homesteads, separated by fences or drainage trenches (Kurz 2010). Kurz identifies a big-man or a chieftain-structure in Ha D1, which might be mirrored in the burials (Fig. 6.5) (Kurz 2009; 2010).

In summary, the monumental burial mounds of Ha C-D1 are *not* necessarily linked to a special type of outstanding settlement, even granted that we have too little knowledge of the settlements themselves and even less of their internal structure. For this reason, the astonishing burials of Ha C-D1 are not a convincing indicator of a kind of urbanism. The only exception where such a case can be made is the *Heuneburg*.

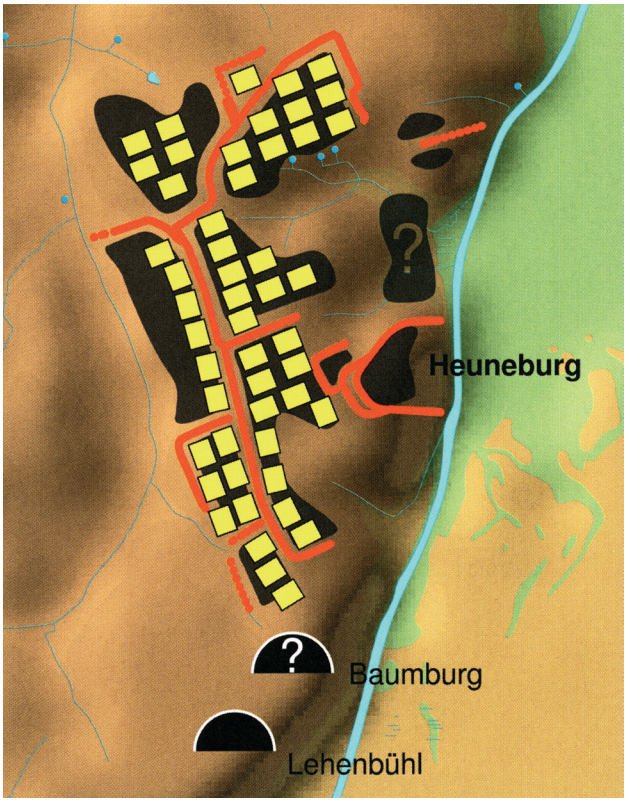
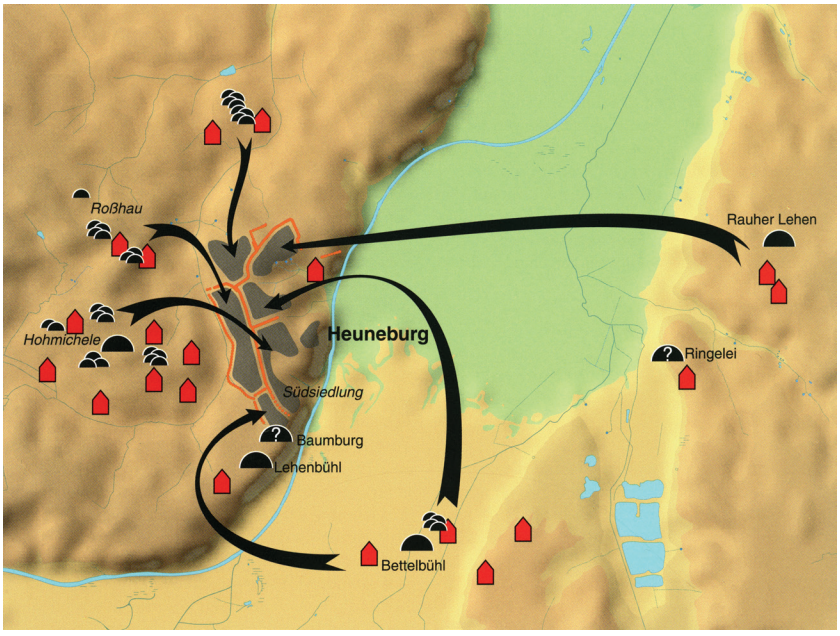


Figure 6.4. *The* Außensiedlung *near the* Heuneburg. *This was a well-structured outer settlement with ditch-bank-systems (in orange). Approximately 50 homesteads (in yellow) are estimated (Landesamt für Denkmalpflege im RP Stuttgart/Kurz 2010, 252 fig. 12).*

Princely settlements and burials of the sixth century BC (Ha D2-3): the beginning of urbanism?

It appears easier to connect settlements and tombs at the apogée of the so-called *Fürstensitze*. This relatively small number of settlements was situated in an area of about 500 × 300 km between eastern France in the West and Bohemia in the East (see e.g. Krausse 2008b; Krausse & Beilharz 2010; see also the contributions of Oliver Nakoinz and Axel Posluschny in this volume). They are usually located on hilltops, of three to ten hectares in size, and with a start date in Ha D2 (except for the *Heuneburg* which started in Ha D1) and a zenith at Ha D3. Most of them were abandoned or declined in Early La Tène (see below). The concept *princely*



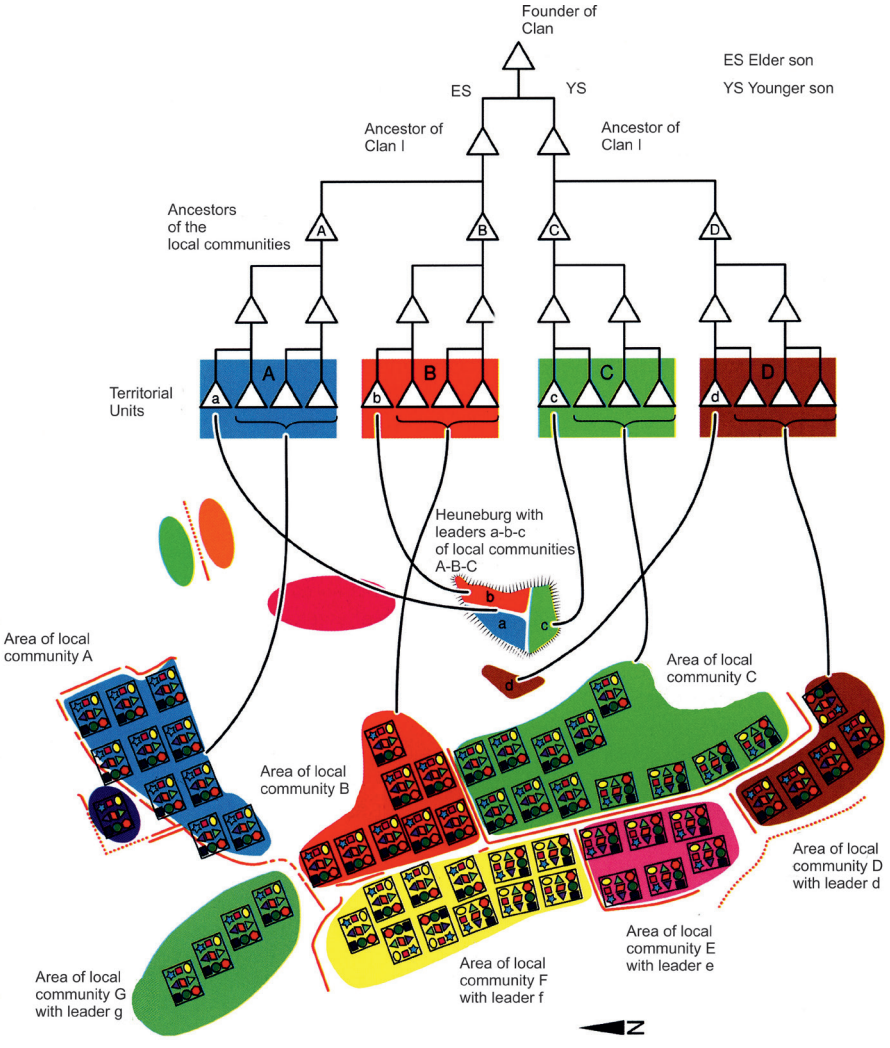


Figure 6.5. *Top: clans were drawn in from peripheral settlements to the* Heuneburg *and* Außensiedlung, *allocated to fortified allotments: following the proposal of S. Kurz (Landesamt für Denkmalpflege im RP Stuttgart/Kurz 2009, 152 Fig. 3). Below: The settlement structures of the* Heuneburg *(=hillfort,* Vorburg *and* Außensiedlung*) mapped following the proposal of S. Kurz in the form of a clan chief model (after Marshall Sahlins 1968). According to this interpretation, the* Heuneburg *and* Vorburg *would have been reserved for the four highest clan groups, while the* Außensiedlung *was occupied by lower ranking groups (Landesamt für Denkmalpflege im RP Stuttgart/Kurz 2010, 254 fig. 13).*

drew on the work of Wolfgang Kimmig (1969) which developed a model related to settlements, placed in prominent topographic positions, perhaps subdivided into an *acropolis* and a *suburbium*, in the sight of extraordinary tombs under impressive burial mounds. Imports (mostly) from the Mediterranean link the settlements to the tombs. Fragments of Attic pottery and imported wine amphorae were found in these *princely* settlements, whereas items such as metal vessels or ivory objects from furniture and mirrors produced in Magna Graecia and Etruria were generally found in the tombs. Some of the finds were unique (e.g. the Persian (?) glass bowl found in the Ha D3-grave of *Ihringen* near *Breisach* (see below) and the exceptional *krater* of *Vix* (Burgundy/France) from Magna Graecia. These objects give the impression that there must have been strong routes of communication between the regions north and south of the Alps, although the causes and mechanisms are still disputed (see contribution of Oliver Nakoinz in this volume).

One might suspect that it would be easy to make a linkage between outstanding graves and their related settlements, with the aid of imports. In actual fact, this task is much more difficult, since not all so-called *Fürstensitze* are allied with exceptional burials, and not all extraordinary tombs are connected with outstanding hillforts. A number of factors constrain the evidence, including the state of research and the precise topographical location (e.g. *Breisach*). The state of play in Germany is examined in what follows.

The Münsterberg of Breisach (Breisgau-Hochschwarzwald, Baden-Württemberg)

The *Münsterberg* (Fig. 6.6) overlooks the Rhine at about 45 m asl, offering a panorama from where the Vosges can be seen in the west, the Black Forest in the east and south, and the volcanic region of the *Kaiserstuhl* in the east. The 10-hectare basalt plateau has been intensely inhabited until the present day. Excavations have shown several metres of settlement deposit, arranged in a deep tell-like stratigraphy. Almost 250 pits, silos, traces of pithouses and houses from Ha D1 to LT B have been found. At its peak (Ha D3), the whole plateau was occupied (Fig. 6.7: green), starting in the southern half of the hill and retreating back into the same area (Balzer 2009; Balzer 2010;

Figure 6.6. *The* Münsterberg *of* Breisach*, seen from the southeast to the northwest, on the left side the Rhine (Landesamt für Denkmalpflege im RP Stuttgart/O.Braasch).*

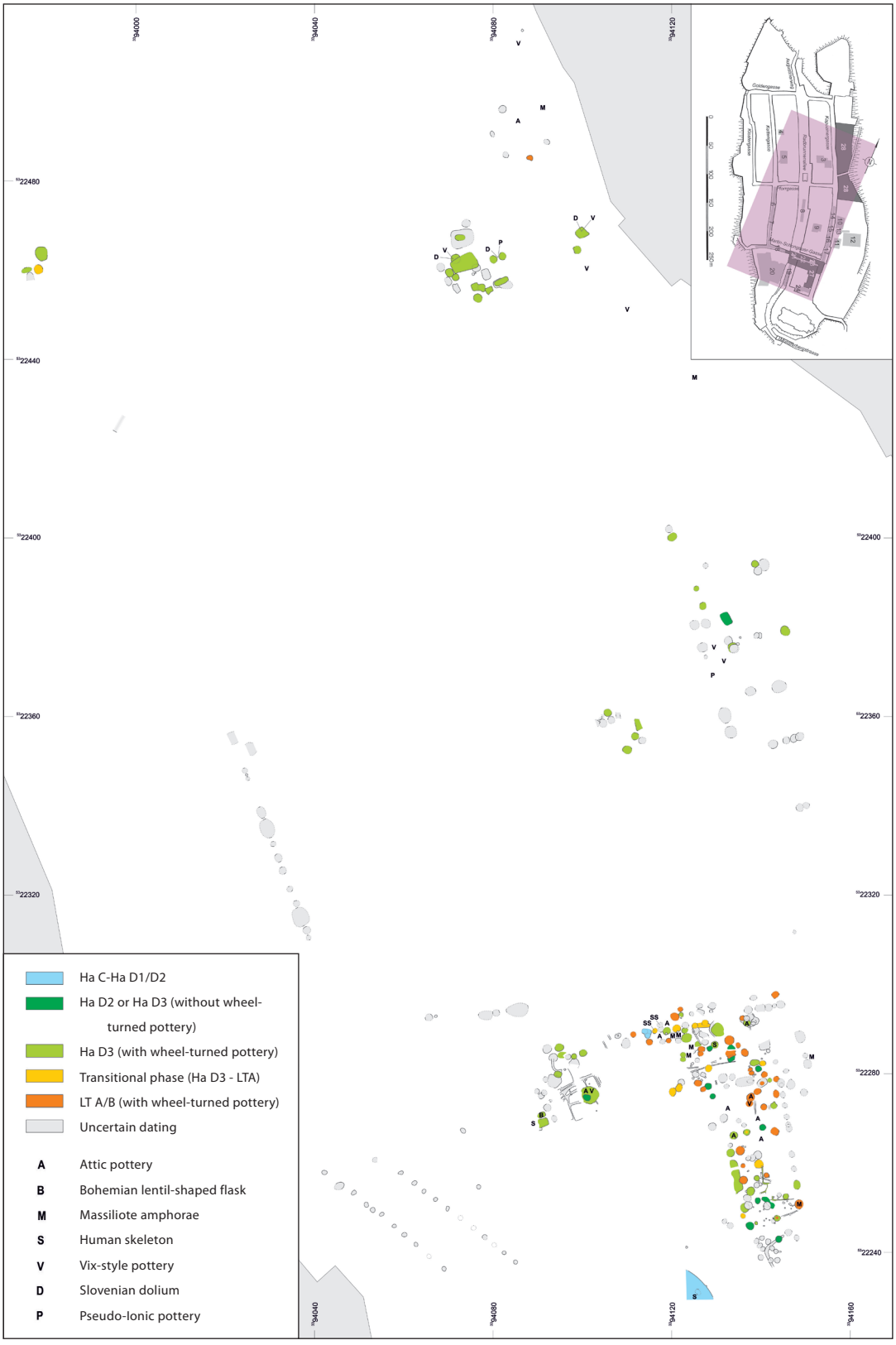


Figure 6.7. *The occupation of the* Münsterberg *in Breisach between Ha D1 and La Tène B (Landesamt für Denkmalpflege im RP Stuttgart/Balzer 2009, suppl. 26).*

Bender et al. 1993). In Ha D3, the small hillforts in the neighbourhood were abandoned (Klug-Treppe 2003; Maise 1996), so that the *Münsterberg* became a sort of central place, the only hillfort within 40km. The finds included not only large quantities of high quality local wheel-turned pottery, but also imports such as Massaliote amphorae, Attic vessels dating to Ha D3 and LTA (Balzer 2010).

The main problem is to locate the associated cemetery. The *Münsterberg* is today located on the German eastern side of the Rhine. Before flood management of the Rhine, the *Münsterberg* was invariably an island set within the different historical courses of the Rhine, necessitating the placement of cemeteries outside the flood zone. Some burial grounds are known at a distance of least 6 km on both sides of the Rhine, in what is now Germany and France. Some groups of burial mounds are known at *Ihringen*. Most notably, remarkable burials of Ha D3 and La Tène A were excavated in the years following 1993 at *Ihringen Nachtwaid*. In Tumulus 1, a 30 year-old man was buried with a neck and arm-ring made of gold as well as of other material, serving and drinking utensils (including an Etruscan beaked flagon), and the already mentioned extraordinary thin glass bowl found in the eastern part of the chamber, believed to have been made in Persia (Dehn 1996).

Hundersingen Heuneburg (Ldkr. Sigmaringen; Baden-Württemberg): Ha D2-3

After a huge fire which destroyed the mud-brick wall and the *Außensiedlu*ng in period IVa/2 in the middle of the sixth century BC – at the end of Ha D1 – the *Außensiedlung* was abandoned in Ha D2 and four large burial mounds (*Gießübel-Talhau-Nekropole*) of up to 75 m in diameter (Fig. 6.8) were built in its place.

Figure 6.8. *The* Heuneburg *and the rebuilt* Gießübel-Talhau-Nekropole *(left side on the top) in the LiDaR scan (Landesamt für Denkmalpflege im RP Stuttgart/J. Bofinger, Flugzeug, Laser, Sonde, Spaten – Fernerkundung und archäologische Feldforschung am Beispiel der frühkeltischen Fürstensitze. Esslingen: Landesamt für Denkmalpflege, 2007, 30).*

Burial mound 4 was constructed and centred over an earlier house of the *Außensiedlung* (Schiek 1985), potentially a grave mound of the family who had been living there. The gravegoods of bronze tableware sets, pieces of wagons and horse harness, belt plates, objects made of amber and gold (Kurz & Schiek 2002) are clear indicators of an élite, whose settlement might be located on the *Heuneburg* or in the *Vorburg*. The *Heuneburg* was itself fortified at the time with a local wall construction and a new type of housing. At the beginning of La Tène A, the entire site seems to have been abandoned. Moreover, the *Heuneburg* and its environment are so complex and inclined to yield fresh information, that the new long-lasting excavation programme (2014–2026) will certainly lead to new data in the immediate future.

Asperg Hohenasperg (Ldkr. Ludwigsburg, Baden-Württemberg)

A totally different situation is observed in the *Hohenasperg* region. The *Hohenasperg* is a large six hectare upland plateau (Fig. 6.9) in the centre of the *Mittleres Neckarland*, just north of Stuttgart. This extremely fertile loess-landscape is bordered by the rivers Enz, Neckar and Glems within a distance of 5 km. The *Hohenasperg* is located at the centre of an unusual area of outstanding burial mounds (Fig. 6.10); several large and rich tumuli of Ha D2 to LT A are known within a radius of 10 km: e.g. *Asperg Kleinaspergle*, *Asperg-Grafenbühl*, *Ditzingen-Schöckingen*, *Ditzingen-Hirschlanden*, *Ludwigsburg-Römerhügel*, *Eberdingen-Hochdorf*, etc. (Biel 1985; Zürn 1970, 1987; summarized in Balzer 2008, 147–9). Their grave goods – including imported furniture with lion feet made of ivory, amber inlays such as carved faces of Sphinxes – indicate close contacts to the Mediterranean. Unfortunately the *Hohenasperg* itself is today overlain by a prison, housed in a substantial Renaissance fortress (see Fig. 6.9) whose construction surely eliminated or built over any Iron Age structures. Sherds collected on the southern and eastern slopes confirm an Iron Age settlement of Ha C/D1 to LT B (Balzer 2010b). However, the *Hohenasperg* is not the only hillfort and settlement in the area. The whole region of the Middle Neckar area was intensively and continuously populated, totalling over 340

Figure 6.9. *The* Hohenasperg *(Landesamt für Denkmalpflege im RP Stuttgart/O. Braasch).*

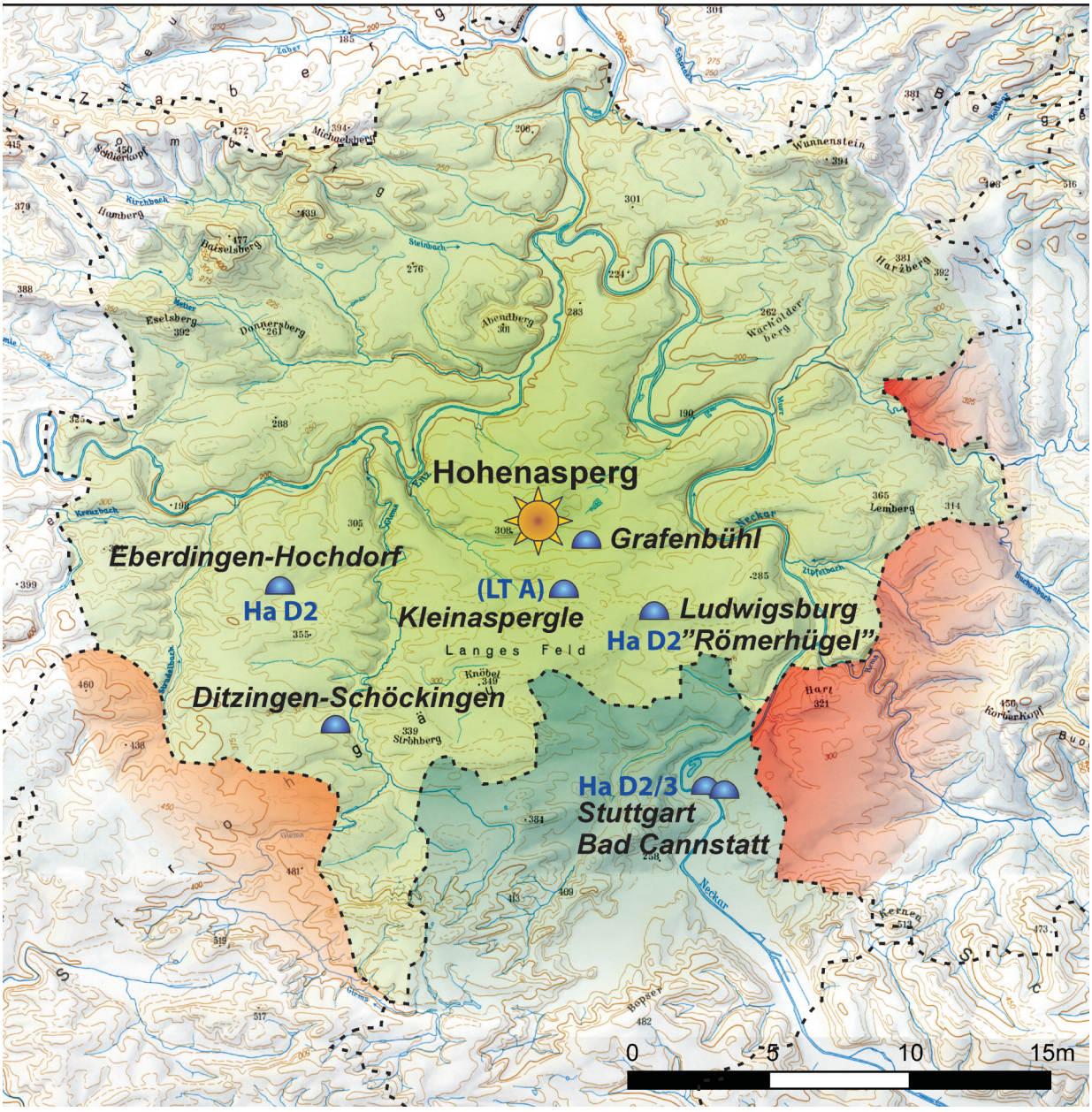


Figure 6.10. *The* Hohenasperg *near Stuttgart:* Princely *tombs (Landesamt für Denkmalpflege im RP Stuttgart: C. Nübold/I. Balzer).*

Iron Age settlements within a radius of 15 km from the *Hohenasperg* (Fig. 6.11; Balzer 2008; 2010 b). For these reasons, it cannot be definitively established whether the *Hohenasperg* was the authentic *princely* residence of the people buried in the outstanding grave mounds. What is more certain is that the prosperity of the region was based on trade of iron from the Black Forest (Neuenbürg) via the Enz and salt from the salt sources of Schwäbisch Hall and the region of Heilbronn.

Bopfingen Ipf (Ostalbkreis, Baden-Württemberg)
The impressive *Ipf* near Bopfingen is situated on the western side of the *Nördlinger Ries*, a circular region created by a meteorite impact about 15 million years ago. The 2.4 hectare plateau of the *Ipf* was surrounded by two fortification lines. A complex fortification system with a total of five visible lines (encircling walls 1 and 2, intermediate wall 3, section wall 4, and a lowest wall 5 enclosing a water source: Fig. 6.12) covered a total area of 11.5 hectares. Thanks to new geophysical

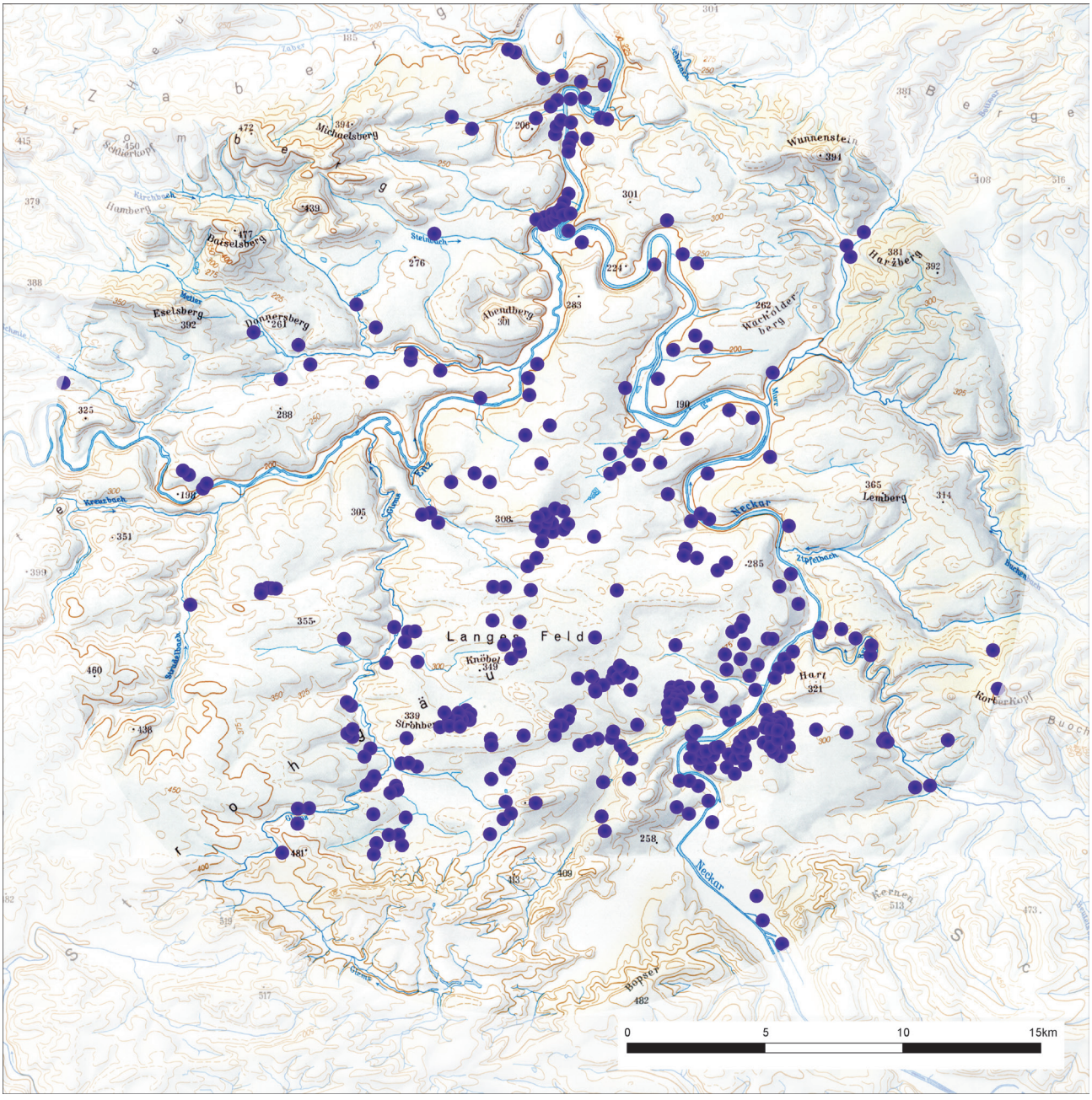


Figure 6.11. *Settlements of the Iron Age (eighth to third century* BC*) in the region of the* Hohenasperg *(Landesamt für Denkmalpflege im RP Stuttgart: C. Nübold/I.Balzer).*

surveys and LiDaR scans, a sixth outer wall has recently been detected, bringing the total enclosed area to about 30 hectares (Krause 2014b, 40). In common with the *Heuneburg*, the *Ipf* is embedded within a complex settlement landscape. Further hillforts and settlements are known. Between the hilltop settlement of *Goldberg* (see cover of the volume) and the *Ipf*, two rectangular enclosures (*Herrenhöfe*) *Bugfeld* and *Zaunäcker* have recently been excavated (Fig. 6.13; see Krause 2015). All of these appear to play a substantial role in the Iron Age, because imports such as Attic pottery and fragments of wine amphorae were also brought to light in the *Herrenhöfe* (summarized in Krause 2014 and 2015; see also Hauser 2014). However there is still a lack of exceptional burials. Two burial mounds were discovered during aerial survey, one with a diameter

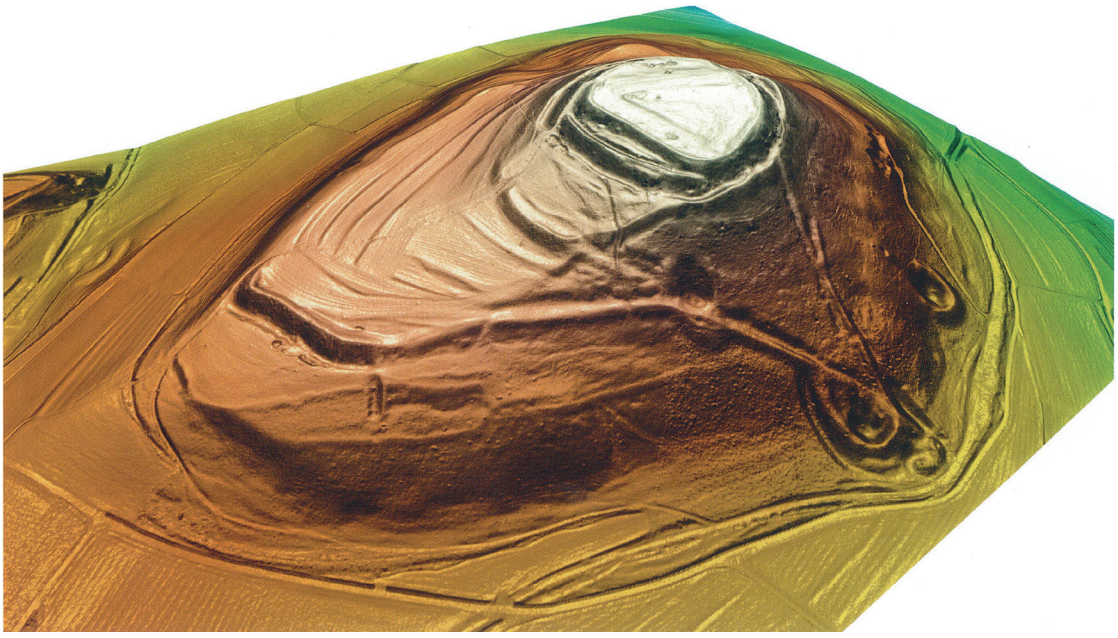


Figure 6.12. *The* Ipf *near* Bopfingen*: digital terrain model with the fortification-system. The outer line of the fortifications includes a water source (on the right; Landesamt für Denkmalpflege im RP Stuttgart: Krause 2015, 81 fig. 50).*

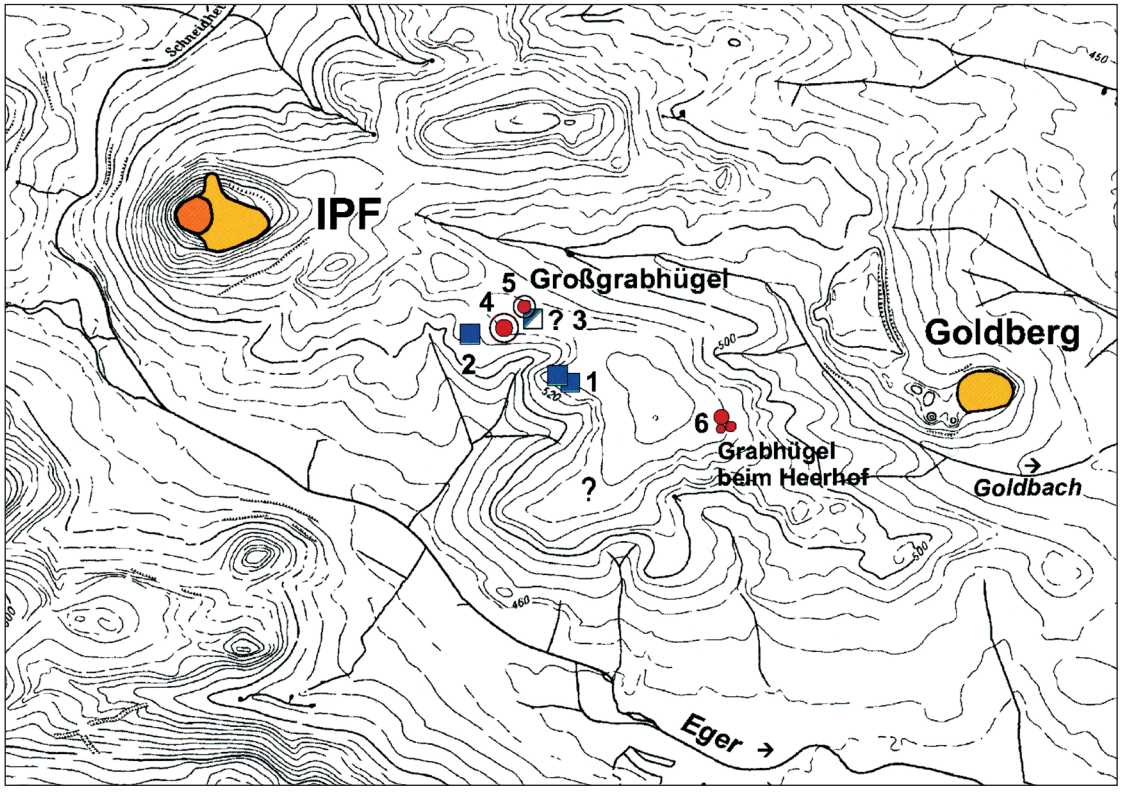


Figure 6.13. *The two hillforts* Ipf *and* Goldberg *(yellow). Between them burial mounds (red) and the so-called* Herrenhöfe *(blue) (Landesamt für Denkmalpflege im RP Stuttgart: Krause 2015, 70 fig. 39).*

of at least 64 m. The excavation of the second smaller mound yielded a rich set of indigenous pottery, but of Ha C2/D1 date. An Italic bronze figure found nearby at *Ehringen* might point to a more recent, *princely* burial mound, which was ploughed out.

The *Ipf* is situated on an invisible border between the western and the eastern West-Hallstatt culture, that in Germany means between Baden-Württemberg/ Hessen and Bavaria. The archaeological situation to the east in the Iron Age is completely different. Prominent *Fürstensitze* are replaced by so-called *Herrenhöfe (*or *Rechteckhöfe)*: rectangular enclosures with the character of estates (farmsteads). The *Rechteckhöfe* are enclosed with one to several ditches (distribution map in Schuhmann 2011, 78, fig. 15). *Fürstensitze* in the sense of Kimmig (with contacts to the Mediterranean) are so far unknown.

Niedererlbach (Ldkr. Landshut, Bavaria)
Niedererlbach is situated near Landshut bordering the wetlands of the Isar river. Three *Rechteckhöfe* (here they are called: *Erdwerk*) were discovered in the 1980s, on the hilltop (Fig. 6.14). Only one of them, a rectangular enclosure with three ditches (*Erdwerk I*), was excavated (Müller-Depreux 2005). The interior covering 60 × 60 m was mainly occupied in Ha D, while an outer settlement shows traces of early La Tène (Koch 1991). *Erdwerk II* and *III* are not currently dated. Cemeteries were discovered by aerial photos, 30 m lower down in the wetlands of the Isar, and twenty surviving grave mounds were excavated (Koch 2001, 66–72). Most of these were dated to Ha D1, including some of the most outstanding female burials of South Bavaria. One notable example was grave 1, a female burial that contained a necklace with over 470 amber beads, accompanied by a child with over 200 small glass rings. It is highly probable that these cemeteries belong to the *Erdwerke.* However, it is remarkable that no graves have been discovered from the early La Tène period contemporary with the later phase of the settlement. Can the absence of burial evidence be explained by the level of research or by a different funerary practice? These remain the key questions for later periods as well.

Figure 6.14. Niedererlbach. *In the foreground, the excavation 1990 of a large, unfortunately robbed, wooden chamber of a Hallstatt-burial. In the background, the wooded hill with the Erdwerk I-III (photo: I. Balzer).*

Fifth/fourth century BC: individual burials, hillforts and living places – and a remarkable location: the *Glauberg*

Some of the *Fürstensitze* like the *Münsterberg of Breisach*, the *Ipf* and probably the *Hohenasperg* were also occupied in the early La Tène period; others like the *Heuneburg* were abandoned or reduced in size. Previously undistinguished hillforts appeared or increased in importance. Trading routes, as well as the exploitation of raw materials like iron and salt, seem to have played a significant role by stimulating the foundation or expansion of hillforts. Examples include *Neuenbürg* (Enz, Baden-Württemberg) which was situated in the Black Forest near a substantial iron industry (e.g. Wieland 2016) and *Bad Dürkheim* (Rheinland-Pfalz), where hillforts, lowland settlements and the *princely* burial of a woman are known (e.g. Bardelli et al. 2017). Others examples include the *princely* grave of *Reinheim* (Saarland; Echt 1999), perhaps linked to the hillfort of *Homerich* (Reinhard 2003), the *Heiligenberg* of *Heidelberg* (Ludwig & Marzolff 2008) and the *Burg* near *Walheim* (Balzer 2010a, 222–4), both near the river Neckar which was a trading route for salt. The most conspicuous burials seem to be more individualistic: the feasting set of this period seems to have been designed for one person (the deceased (?)), while the early (Hallstatt) graves appear to have hosted several (up to nine) people.

Imports, such as Attic pottery were not as numerous in the early La Tène period and appear also in lowland settlements such as *Eberdingen-Hochdorf Reps* (Biel 2015). A direct connection between settlements and cemeteries is not easy to establish, even based on southern imports, because these tend to be based on coral inlays and the transformation of Mediterranean floral elements into local imagery. Some Etruscan beaked jugs, were however, often found in ordinary graves.

In the late La Tène A, there is one substantial exception, where a connection between funeral rites and settlement area seems to be absolutely clear cut: the *Glauberg*.

Glauburg-Glauberg (Wetteraukreis, Hessen)

The *Glauberg* is located about 30 km northeast of *Frankfurt am Main*, which means that it is situated on the northern limits of the *Celtic* region. The plateau of the basalt hill covers eight hectares (totalling 20 hectares with the addition of the annexe) and is located 150 m above the valley bottom. It has been occupied since Neolithic times, but the first fortification enclosing the whole plateau is dated to Ha D3 (Baitinger 2010). The fortification, and especially its environs, have been studied intensively in the last two decades by geophysical and LiDaR survey, coring and excavation (most recently Hansen & Pare 2016). The reason for the ongoing research is the discovery of three outstanding graves in two burial mounds, embedded in an extraordinary, still mysterious, ditch-and-bank system (Fig. 6.15: summarized in Baitinger & Herrmann 2014; Balzer 2016).

Burial mound 1, with a ditch of almost 70 m in diameter, was certainly the most impressive monument, while the smaller Tumulus 2 (24 m in diameter), was situated in a more prominent location. Tumulus 1 (Fig. 6.16) contained an empty pit in the centre of the barrow. A male warrior inhumation (*princely* grave 1) was found on the northern side of the mound, while a male warrior cremation (burial 2) was discovered on the southern side. Distinctive grave goods such as two characteristic bronze jugs in *Celtic* art style filled with mead, golden and bronze objects like neck-, arm- and finger-rings, exceptional figurative brooches and belt buckles, richly decorated scabbards, swords and shield, and pieces of a so-called 'leaf crown' make these burials remarkable (Fig. 6.17). The excellent preservation of organic materials such as wood, textiles, leather etc., that are still under study, add new details.

The biggest sensation, however, was brought to light during the excavations in 1996 in one of the trenches of Tumulus 1. A nearly complete, 1.86 m high statue made of sandstone (Fig. 6.17) was found, which portrays the objects from grave 1 as attributes (see also Baitinger & Pinsker 2002). Further fragments indicate three similar statues. Outside Tumulus 1, two parallel 350 m long trenches connect the ditch of the tumulus with the external bank-ditch system. These structures have been interpreted as a 'processional street' orientated on the southern Major Lunar Standstill, which takes place every 18.6 years (Deiss 2008, 282–5), because the earthworks do not respect the local topography. The geophysical and archaeological investigations recognized vast gaps in the bank-ditch system, which could mean either that it is an unfinished fortification or a funeral area. All these facts when taken together, accounting for other burials and skeletons in storage pits and near the ramp systems (Knipper et al. 2014), demonstrate the likely presence of a ritual zone, which belonged to the hillfort and which was integrated (but also divided) by the banks and ditches.

A later perspective (La Tène C and D): early towns – and (proto-)urban cemeteries?

The settlements founded in early La Tène were abandoned in the middle La Tène period; even at the *Glauberg* traces of the middle La Tène period are very rarely detected. From La Tène B, cemeteries

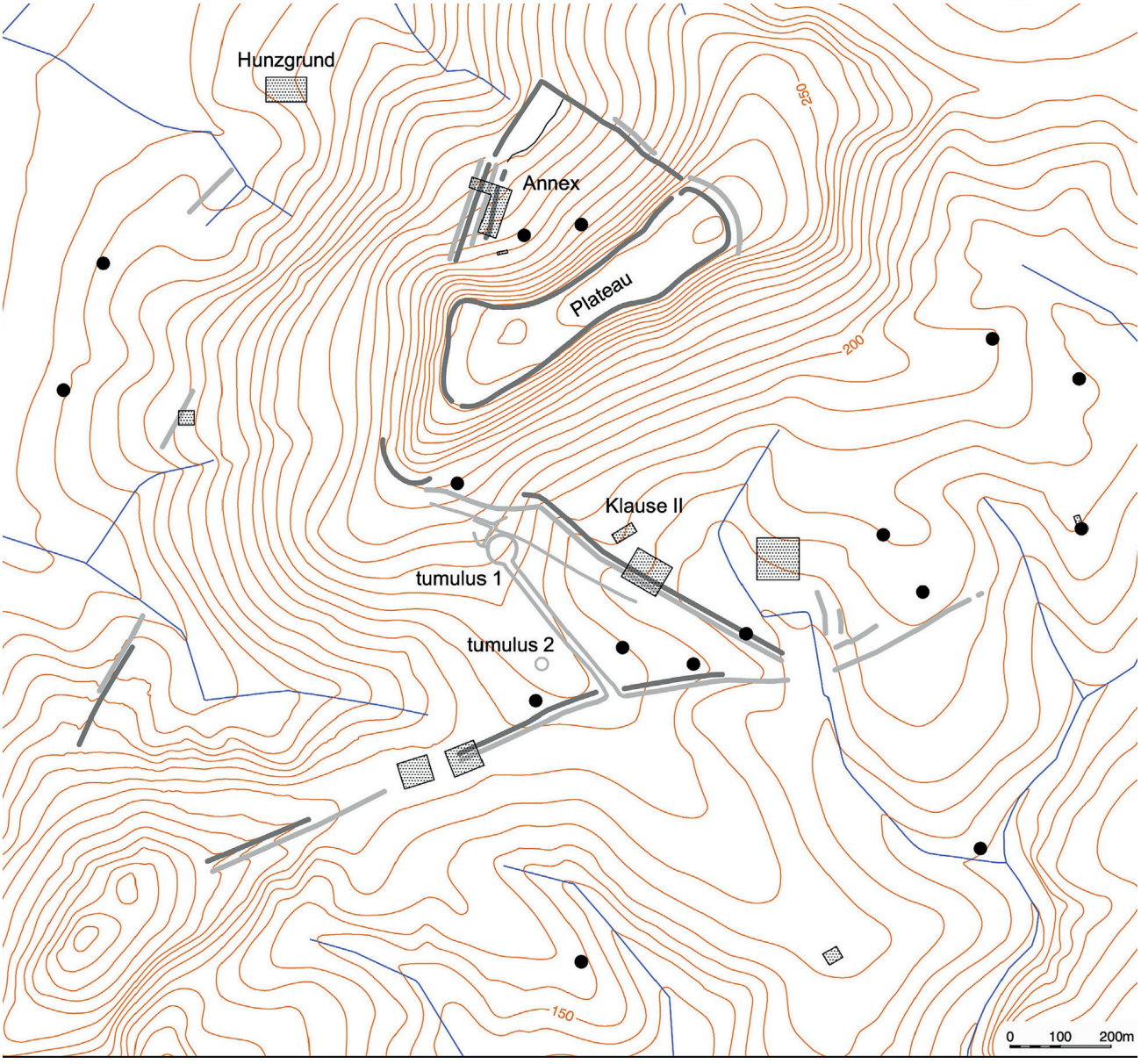


Figure 6.15. Glauburg-Glauberg. *Map of the monuments of the Iron Age visible to the naked eye and in the geophysical survey. Dark grey: bank, light grey: ditch. The excavation areas of the* Institut für Vor- und Frühgeschichte an der Johannes Gutenberg-Universität Mainz *(shaded areas) are shown as well as the surveys (black dots) (V. Grünewald/Institut für Vor- und Frühgeschichte Universität Mainz).*

with flat graves replaced burial mounds. The setting for the afterworld was achieved entirely by personal possessions. Small cemeteries were created, it seems, exclusively for one family or a household. Good examples are the LT B to C inhumation cemeteries of *Gäufelden-Nebringen* (Ldkr. Böblingen, Baden-Württemberg; Krämer 1964) and *Korntal-Münchingen Lingwiesen* (excavation 1995–1998, Stork 1997), where late La Tène B graves (Fig. 6.18: brown) as well as settlement structures (Fig. 6.18: yellow and orange) were found nearby (Balzer 2010a). 13 cremation graves were discovered (Biel 1974) at the La Tène C cemetery of *Giengen an der Brenz* (Ldkr. Heidenheim, Baden-Württemberg). Cremation became the standard funeral rite in the last two centuries BC, a type of burial that is itself more difficult to detect.

The only prominent grave of the middle La Tène period in the German region is the LT C2

inhumation grave of *Sinsheim-Dühren* (Rhein-Neckar-Kreis, Baden-Württemberg), discovered in 1865. Because of the circumstances of the excavation not all attributes of the supposed woman are known, but they are very elaborate: two mirrors and bronze vessels (imported from Italy?), seven brooches, two of them made in silver, golden finger-rings, beads made of glass and amber, arm-rings made of glass, a *Celtic* silver coin and gaming pieces made of glass (Spohn 2009; Wieland 2009). The context of the grave is remarkable: near or under a rampart of a so-called *Viereckschanze* – a rectangular enclosure of a later La Tène farmstead (Wieland 2006b; and this volume). Once again the intentionality of their association is raised as a question.

As well as the open, unfortified, smaller settlements like *Korntal-Münchingen* (LT B-C1) or bigger villages as for instance in *Breisach-Hochstetten* (LT

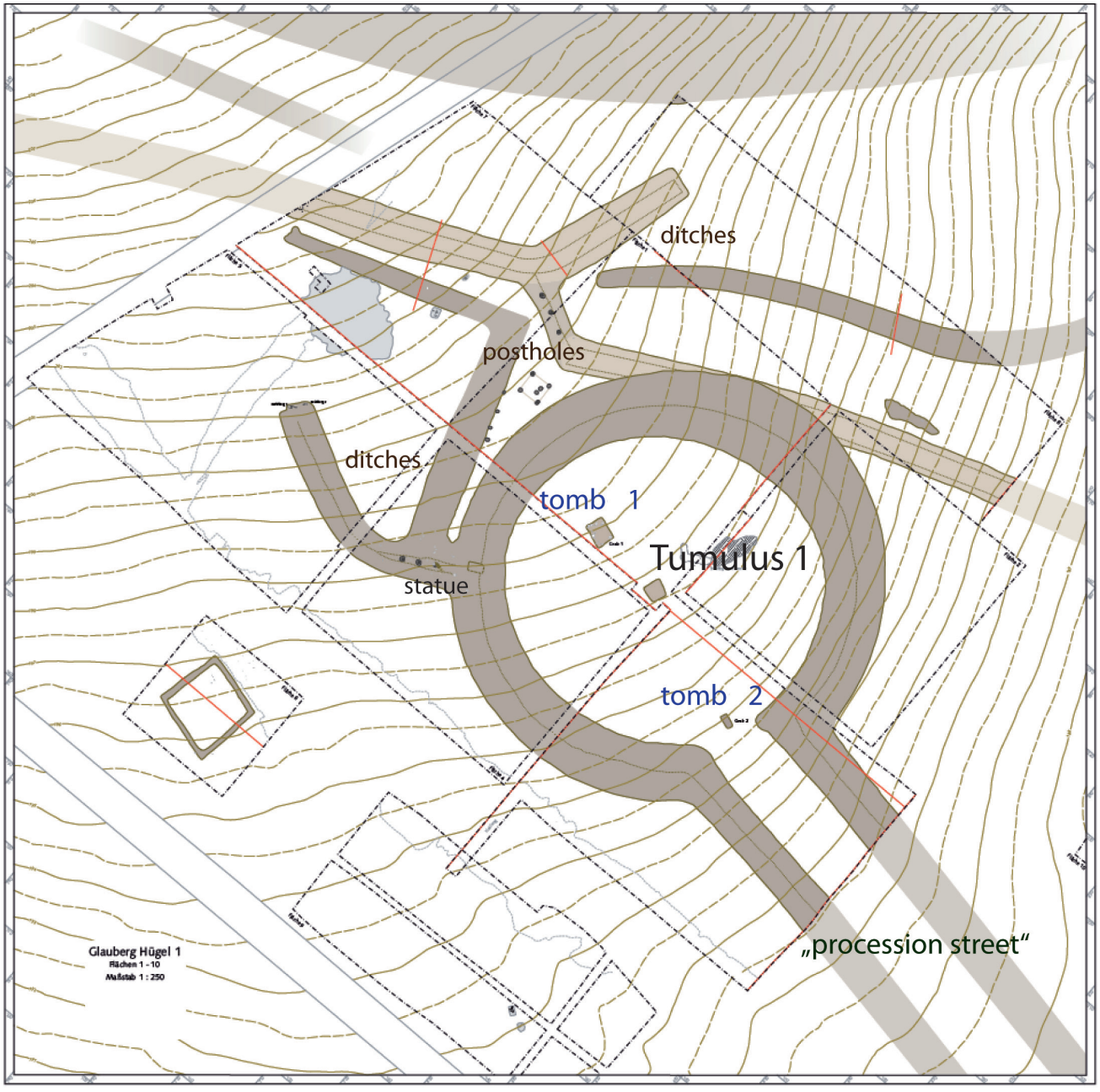


Figure 6.16. Glauburg-Glauberg*: Tumulus 1 and environs (Keltenwelt am Glauberg/Baitinger & Herrmann 2014 with additions of I. Balzer).*

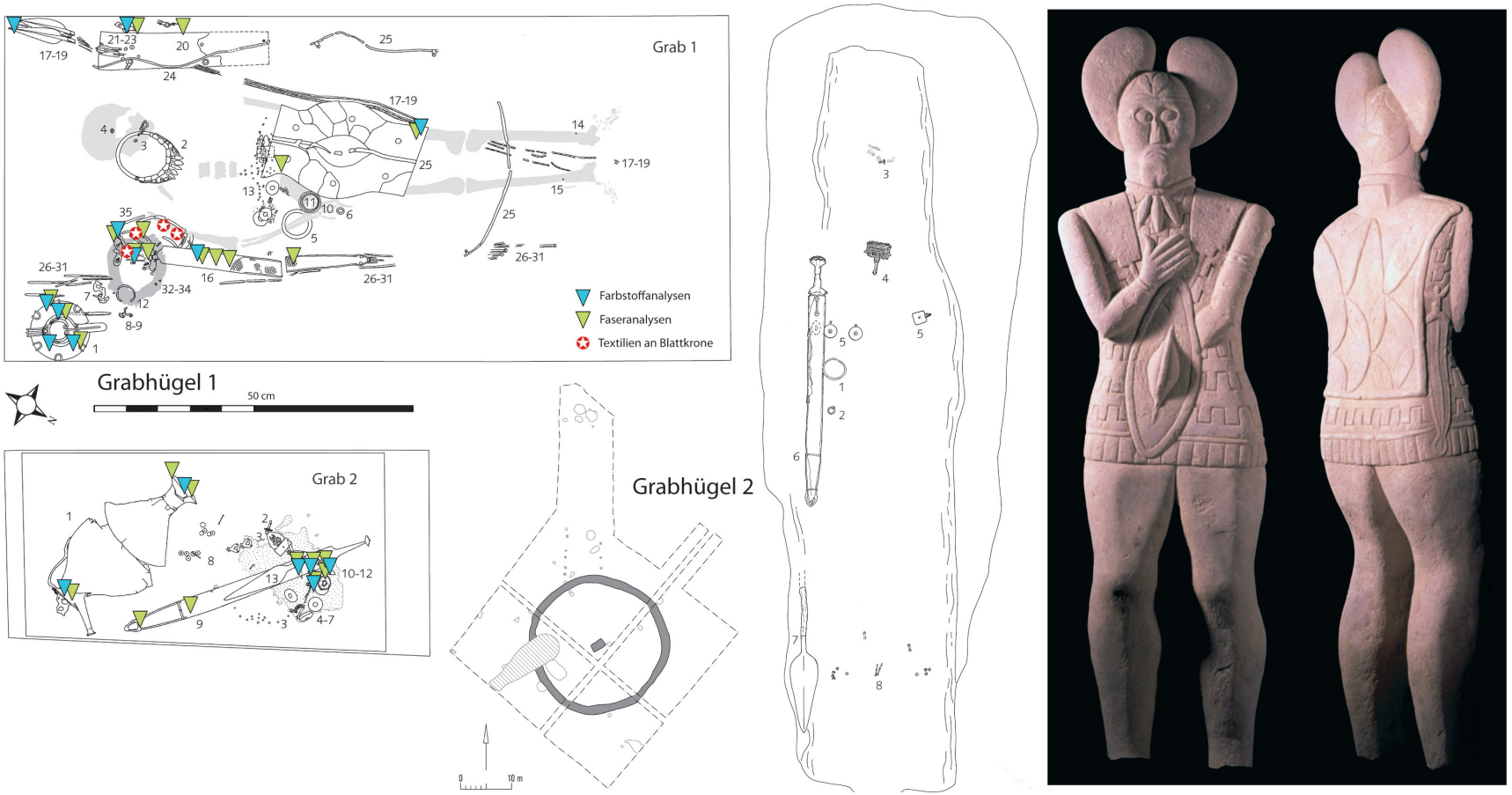


Figure 6.17. Glauburg-Glauberg. *Left: Tombs 1 and 2 of Tumulus 1 (with a mapping of the textile analysis; blue: dye, green: fibre analysis) and Tumulus 2 (centre). Right: the sandstone statue (Left: Balzer/Peek/Vanden Berghe 2014, 3 Abb. 3; centre: Keltenwelt am Glauberg/Baitinger & Herrmann 2014, 30. Foto right: Keltenwelt am Glauberg/U. Seitz-Gray).*

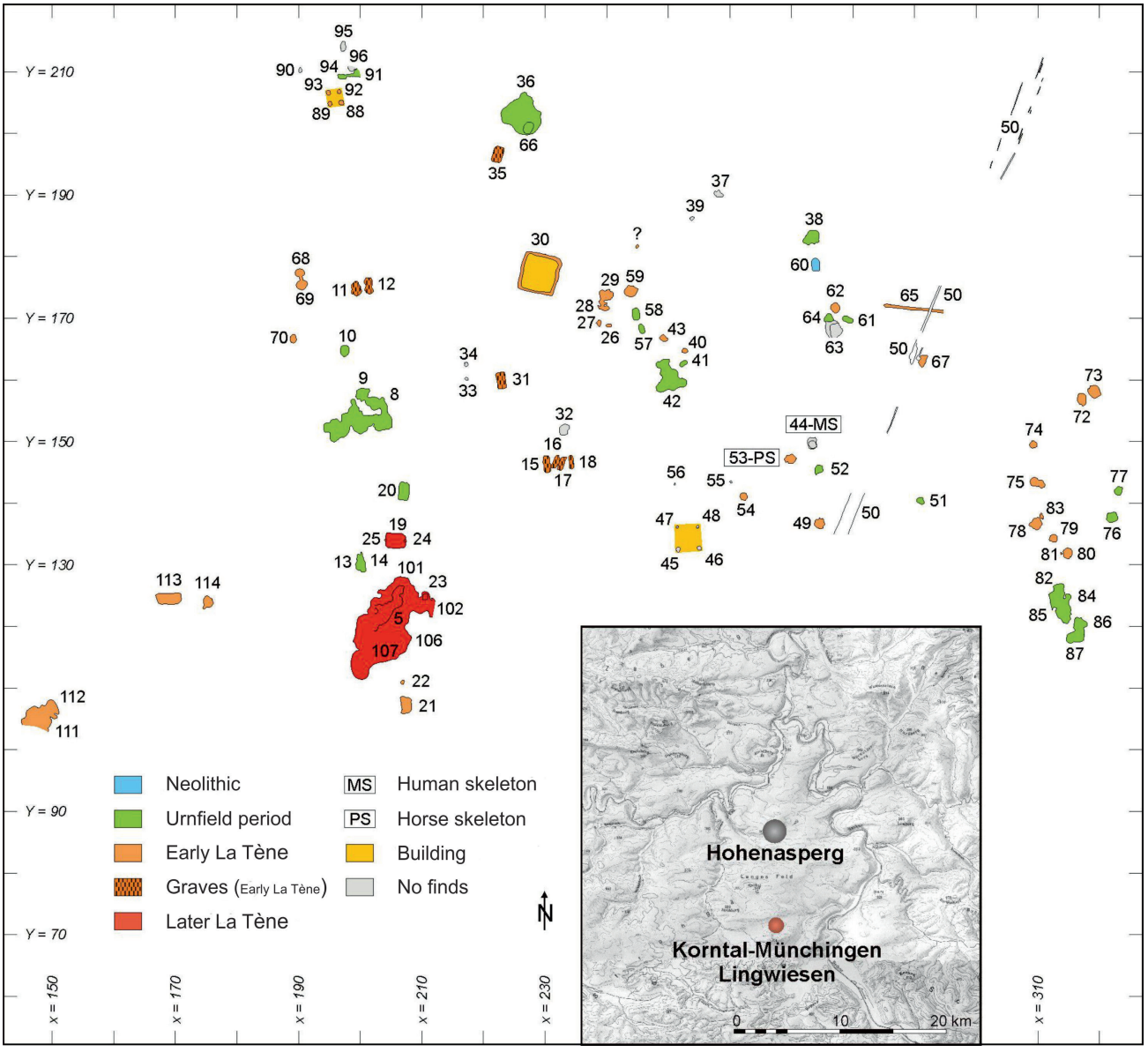


Figure 6.18. Korntal-Münchingen Lingwiesen, *excavation 1995-1998 (Landesamt für Denkmalpflege im RP Stuttgart/Balzer 2010b, 221 Abb. 14).*

C2-D1; Stork 2007) and the farmsteads like the *Viereckschanzen*, a new settlement 'category' was now present: the *oppida* (von Nicolai this volume) – defined by John Collis (1984) as the 'earliest towns north of the Alps'. The dimensions of the *oppida* – see e.g. *Manching* (Ldkr. Pfaffenhofen an der Ilm; Bavaria) and the *Heidengraben* (Ldkr. Reutlingen and Stuttgart; Baden-Württemberg) – differ enormously from the size of the *Fürstensitze*: now ranging between 100 and 1700 ha, in comparison with 3 to 10 ha. The biggest of them, the *Heidengraben* and *Manching*, give us an explanation of why cemeteries of LT C and D are hard or impossible to find. At *Manching* (Krämer 1985), the *Hundsrucken* cemetery, with 22 burials, and *Steinbichel* cemetery, with 43 tombs, are known, but disarticulated human remains were also distributed across the settlement. The commingled body parts hint at different funerary practices, perhaps phased cremations (Hahn 1999). No cemeteries of the late La Tène period have yet been discovered at the *Heidengraben*, but, in an area of Hallstatt burial mounds, several places with ashes and animal bones have been located: perhaps they are also traces of alternative burial customs (Stegmaier this volume).

Figure 6.19. Glauburg-Glauberg*: aerial photo of the rebuilt Tumulus 1 and the ditch-system with the so-called processional street (centre). In the background, the densely wooded* Glauberg *with the hill fortification (photo: Keltenwelt am Glauberg/V. Rupp).*

Concluding remarks

To reconstruct prehistoric societies in a successful way it would be very useful to connect living places with cemeteries. However, even with the modern suite of methods – such as landscape archaeology and bioarcheology – this has proved problematic in the Iron Age of Germany.

In the Hallstatt period, the *princely* remains are striking, and it would seem logical that this special type of distinctive fortification should be linked with equally distinctive burials nearby. The state of research of most *Fürstensitze* in central Europe varies considerably, and has changed dramatically in the last two decades. Thanks to the development of non-invasive methods (geophysics and LiDaR), the focus of present research focuses particularly on the landscape. As a result, we know much more about some sites (e.g. the *Heuneburg* and the *Ipf*), but research is still ongoing and the final results are awaited. The in depth social interpretation of Siegfried Kurz about the structures from the *Heuneburg* are still the most effective, but are still at a preliminary stage.

The burial mounds of Hallstatt and the early La Tène period were built in a monumental way; sometimes even with stone walls around the barrow. They were constructed in a manner, which supposes that they were to be conspicuous in prehistoric times: they are integrated within a settlement region so as to act as more than a container for the dead. They could be a landmark, which means the marking of a river passage (*Remseck-Neckarrems*) or a long distance path (*Magdalenenberg*). They could announce a border or hint at a region's ownership, a representation of old and new power, or a symbol of ancestor worship (such as possibly at the *Heuneburg*). This style of burials and their visibility appears to be important, especially in the Hallstatt period. In early La Tène, the grave mounds themselves lost their function as a symbol. However the huge tumuli of the *Glauberg* are an exception in terms of monumentality – but not visibility. The two burial mounds were integrated within the

bank-ditch system in a very uneven landscape, and that is why they were visible *neither* from far away, *nor* from the hillfort and the outer settlements of the *Glauberg* itself!

From La Tène B onwards, the flat graves – inhumations in La Tène B, cremations in La Tène C-D – were not visible from far away. For the La Tène C and D period, it seems a twist of history that our historical sources (mainly Gaius Julius Caesar's *Commentarii de Bello Gallico*) described the places of the living, the names of the towns and *oppida*, and a strong social stratification – but the latter stratification is not overtly reflected in the graves. This is a situation particularly marked in Germany, although differences occur in both France to the West and Bohemia to the East.

We are left with the paradox that while increased urbanism is generally interpreted as increased social stratification, it is accompanied by apparently more equal and simple graves.

Acknowledgements

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Part 4
Comparative approaches

Chapter 7

Quantifying Iron Age urbanism (density and distance)

Oliver Nakoinz (Kiel)

Several concepts of urbanism are currently addressing the specific features of cities. These concepts discuss the differences between rural settlements and cities, and try to establish a definition of cities by developing an outline of the extraordinary properties of urban settlements. This paper aims at measuring urbanism and applying quantitative and mathematical approaches to the phenomenon of urbanism. While the first target, the measurement of urbanism, seems to be self-evident, the application of quantitative and mathematical approaches needs some explanation. Would it not be sufficient to establish a population threshold, just a simple number, for defining cities? This paper discusses advantages and problems of different approaches using the *Heuneburg* as a case study. In doing this, we should be able reach a better understanding of both the *Heuneburg* case and the usage of quantitative approaches in archaeological studies of urbanism.

Quantification

By considering paradigms, that is the relationship between different kinds of data and the diverse ways of using data, we can establish the role of quantitative analysis in the research process. Basically, we can distinguish three types of data in a data set: 1. Structured data, which are connected to a real or artificial phenomenon. The most simple example is the correlation of two variables. The age–size correlation of children might serve as a trivial example, while preferred locations of settlements provide an archaeological application. 2. Individual data, which do not show any significant correlations. One individual in a community might be small during the whole of their life, because of specific diseases, and an arbitrary wager might be the actual cause of the location of a settlement. 3. Finally, we have to mention noise, which is a variation in the data, without structure, and not caused by real phenomena.

These examples show that the classification depends, to a certain degree, on knowledge and theoretical considerations. If we know about the disease, we might judge the case of the small individual, and whether, in fact, it is just an outlier, not individual data, but structured data. In addition, we see that a complete correlation is not very likely, since there is a natural variation amongst children of a certain age.

Noise cannot be used to gain historical knowledge at all. Traditional approaches use structured as well as individual data. Processual archaeology is focussed on structured data, while post-processual archaeology mainly deals with individual data. Individual data require a degree of knowledge about the meaning of the data. In archaeology, at least in prehistoric archaeology, it is not possible to learn about the meaning directly, since we do not know what people are thinking. To a certain degree, assumptions and hunches about this meaning, based on certain theories are plausible as cognitive archaeology shows (Renfrew and Zubrow 1994). The hunches can become informed, when our system of hunches is consistent and, in particular, if the hunches are supported by structures in the data. Structured data, on the other hand, allow us to detect certain patterns and structures without knowing about the meaning. In this case, it is not the content, but the structure of data, which allows an interpretation.

The quantitative analysis itself is nothing but a transformation of the data, which makes patterns and relationships visible, which allow us to answer a research question. The focus of quantitative analyses, is thus on the methodology of data transformation while the analysis of individual data is concentrated on the involvement of theory. This seems to support the idea of different incommensurable paradigms. In fact it does not. The two approaches are rather complementary,

because they deal with different data and answer different questions and hence provide different parts of the whole. Both approaches involve a huge degree of theory and different methods. Approaches dealing with individual data do not require methods for revealing hidden structures inside the data, but methods for extracting information and compiling data.

Both approaches are using four types of theories. It is necessary to distinguish the four types of theories for understanding the confusion which sometimes occurs in discussion. First, we have to mention high level theories, which are our main point of reference when we speak of archaeological theory. High level theories are concerned with the relationships of real world elements such as the relationship of people. All entities are constructed in the sense, that we do not handle the original elements, but symbolic entities and relationships. Low level theories are rather technical, since they deal with the same elements, but rather as part of the construction, than as part of the real world. Data base theory, logic and mathematics are examples. There is a certain connection between the two types of theories which is made up of a third type of theory, middle range theories. Examples are the theory of formation processes and the theory of typology. Middle range theories connect the data to the interpretation. The final type of theories is meta theories which set the frame for all things. Philosophy, research strategies and this paragraph are examples.

While it is true, that the processual approach focuses, up to a certain degree, on method (low level theories) and the post-processual approach focuses on theory (high level theory), from the point of view of research processes (meta theory) both require a balance of objective, data, method and theory and both need to complement each other. Based on these considerations, we can neither agree to the idea of paradigm shift nor to the concept of a war of paradigms. This is of particular important in the case of rather complex topics such as urbanism, where we cannot hope to get significant results with one approach only, covering just half of the problem.

After explaining some basic tenets, which are required for understanding quantitative approaches, we can turn to urbanism. There are many definitions of cities. We use five types of definition: simple quantitative approaches, functional approaches, structural approaches, qualitative approaches and system approaches. The definitions will be applied to the case study of *Heuneburg*. The *Heuneburg*, a so called *princely* seat, a fortified settlement with indicators of Mediterranean imports and surrounded by extraordinary rich graves, is assumed to be the first town north of the Alps (Krausse 2016; Winger this volume). Our purpose is to establish, whether the *Heuneburg* can be considered a town or not. The task is not just to classify the *Heuneburg* as a town or as a rural village, but to understand the mechanism of urbanism. The definition of urbanism and the posing of the question of adherence by the *Heuneburg* to that definition has a heuristic purpose rather than comprising a proper objective.

Simple quantitative approaches

Size is certainly an important factor for urbanism. Eurostat (Eurostat) defines a threshold of 5000 inhabitants. Kurz (2010) also estimates the population of the *Heuneburg* in Ha D1 as 5000 inhabitants and hence, the settlement can be considered, on this criterion, to be a town, at least in Ha D1. However, how should the boundary of the settlement be defined? In principle, we could extend the area of the town and reach any population value we need. This certainly does not make any sense. Density values, therefore, seem to be a better choice than population levels. Density is defined as population by area. Eurostat (Eurostat) provides us with a density threshold of 300 people per sq. km and Demographia (2015) with a value of 400 people per sq. km. If we use the population numbers and maps from Kurz (2010), the density values for the *Heuneburg* are much higher. Density values, give the same result as population values for the *Heuneburg*, namely that the settlement should be considered a town.

Nonetheless, simple quantitative approaches are very problematic. Firstly, the thresholds are arbitrary and without a theoretical foundation. There is no natural threshold and, hence, the classification is without meaning. These approaches can be used for regional comparison, but not for understanding urbanism. Currently, the obviously arbitrary official population thresholds in different countries range between 200 and 50,000 inhabitants (Deuskar 2015) and do not allow the comparison of cities around the world. Secondly, these approaches are just based on descriptions and not connected to processes, functions and structures (Spencer et al. 2015). The problem is an inadequate connection between research objective and method.

Functional approaches

Many definitions are based on functions, in particular economic functions (Smith 1989). They stipulate features such as no agriculture, diversity of activities and specialization. Looking at the *Heuneburg*, we do not get a clear result on these grounds. The *Heuneburg* definitely has agriculture, but the palaeobotanical results (Fischer et al. 2010) indicate, that the *Heuneburg* is a

consumer site rather than a producer site. Specialized crafts can be found at the *Heuneburg*, as apparently indicated by ceramics and metalwork. However, the degree of specialization is rather low according to Modaressi-Therani (2009). Other evidence, supporting or rejecting urbanism can be found, but these also do not produce a clear result, since it is difficult to weight the parameters. The *Heuneburg* seems to have a certain degree of urbanism, which is changing through time, but always lower than one and higher than zero on a scale between zero and one. Although, we have no clear result, this functional approach provides more insights into the mechanisms of urbanism.

Considering the quantitativity of this approach, we have to distinguish two levels. On the first level, the number of grains and or pollen is used for a botanical classification. On this level, the result is based on a system of high level, low level and middle range theories, provided by palaeobotany. The results are individual indicators. On the next level, we would need to combine the different indicators, which also can be done using quantities. On this level, we have a particular problem, which is the lack of theory, in particular middle range theory and meta theory. We just do not know how to weight the indicators. For instance, are agricultural indicators or crafts more important for urbanism? Obviously, we have a problem of connecting theory (high level theory) to methodology (low level theory), meaning an appropriate middle range theory is missing. A solution could be to define different types of urbanism according to different types of indicators.

Structural approaches

Structural approaches consider the relationship between elements, and, in the case of urbanism, between different settlements. In formal terms, a structure is what remains, when the elements are substituted (Tetens 2013, 38–42). Social structures, for instance, are certain persisting rules for relationships, which apply to different sets of individuals. The two main, tightly connected, structural approaches are centrality and urban networks. The term 'central place' was developed by Christaller (1933) in order to circumvent the problems of the term 'town' which was, and still is, heavily loaded with different levels of cultural meaning, mental associations and the ballast of a long tradition of research. Christaller decided just to define the term 'central place' and to develop the concept of centrality, with the aim of understanding why settlements develop particular sizes at certain locations. In the first place, the concept of central places was intended to deliver a functional explanation of the location and size of cities. According to Christaller's concept, centrality is the *relative meaning*, which a settlement obtains by supplying central functions to a specific, well delimited, area surrounding the central place. *Relative meaning* means in this context the amount of supplied central functions in comparison to the population of the place. A place, which supplies only the amount of central functions, which would be predicted from the population size, even if it is a big settlement, is not defined as central. The surrounding area which is supplied is called a complementary area and is a kind of economic territory. Since the whole system is optimized, the distances to the centre, in the same complementary area as the actual central place, are smaller than to all other centres. The concept of Voronoi-graphs applies such optimized structures. The different range of different central functions and goods causes a hierarchy of central places. The structure of the hierarchy is defined by the k-values, which indicate the number of subordinate places of the centrality level n-1 for each centre.

In archaeology, we can distinguish three schools of central place research (Nakoinz 2013b) focussing on different approaches. The first systematic application of central place research in archaeology occurred in Britain. The geographer Peter Haggett and the archaeologists David Clarke transferred some ideas from geography to archaeology amongst which central place theory has to be mentioned (Clarke 1968). According to Haggett's interest in locational theory, the focus was on optimized complementary areas, calculated using Voronoi approaches. This school of central place research was marginalized by the emergence of post-processual archaeology. At a later stage, central place theory was discovered in Scandinavia as a tool to cope with problems in regional research. Finally, central place theory became popular in Germany, but here, central functions are in the focus.

In Scandinavia, and currently in Germany there has been a paradigm shift from central place research to network approaches. The term 'centrality' in social network analysis is completely different from the Christaller approach. A place, controlling the contacts between most other places is most central (betweenness centrality; e. g. Freeman 1977). The network approach and the Christaller approach of centrality provide different organizational structures and hence, we can speak of a paradigm shift in the context of planning, but not in the context of empirical research. Ancient organizational structures and variants of centrality cannot be decided by choosing a theory, but have to been tested. Furthermore, we have to assume both types of structures for each settlements meaning that we are searching for the dominant, not the only existing type of structure.

In the case of *Heuneburg*, I have argued (Nakoinz 2013a), that network centrality is more important than Christaller centrality. This leads to an interpretation of the *Heuneburg* as a gateway and hence a town. The network approach of centrality is also connected to the concept of urban networks (Camagni and Salone 1993). A town is connected to other cities and connects its parts by a network. Transportation, the road system, means of communication, intra- and interurban economic exchange and interaction systems and many other facets are included. The term is not precisely defined, but offers different meanings. On a regional and supra regional level, cooperation and rivalry are driving the development of the whole system as well as the single cities. However, exchange and interaction are also on the intra urban level of this urban network an important driver of economic, social and cultural processes.

Centrality and urban networks are specific structures, which can be used and frequently are in use to optimize the interaction between settlements and the interior of settlements. Both are covering just a part of the phenomenon and hence, the theories are not sufficiently adapted to the objective. The two approaches provide us with the knowledge of how interaction in and between cities was organized, but not with the answer to the question, why these solutions have been applied.

Qualitative approaches

Among the many qualitative approaches, two are most prominent: jurisdictional and lifestyle. The jurisdictional approach is based on the precise law, which is given to a settlement. The medieval town law of Schleswig (Hasse 1880) is just one example. Since legal based definitions of towns are acknowledged to be important in medieval times and since they are usually available in written historic sources, they are the subject of a wide range of historical and geographical urban research, in particular in the nineteenth and early twentieth century. Legal information on prehistoric settlements is usually not available.

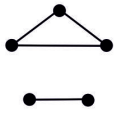
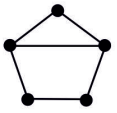
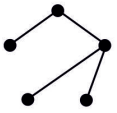
The lifestyle approach (Wirth 1938) is rather focused on the practice of the urban inhabitants rather than on their legal framework. This approach defines a particular behaviour of the inhabitants based on the size and population density of the town. The specific urban way of life includes anonymity, specialization, distant social relations and a high degree of mobility. These parameters can be observed only incompletely, using archaeological information. It is certainly difficult to judge anonymity in prehistory or to compare regional mobility of rural and urban settlements in prehistory. Furthermore, the urban way of life is not restricted to cities, but can also be found in rural settlements up to a certain degree (Gans 1962). Both approaches lack decent middle range theory, which would connect the theoretical assumptions of the two approaches to quantitative or even qualitative archaeological data. Although qualitative considerations are important, they can hardly contribute to an applicable definition of urbanism in prehistory.

System approaches

The final set of approaches discussed in this paper are system based approaches connected to systems theories (von Bertalanffy 1968) and the theory of complex systems (Gell-Mann 1995). A system is a model of a particular research topic, which does not only map the structure, but also the dynamic interrelationships between the different elements. A complex system demonstrates certain behaviours due to non-linear interrelationships. Complex networks show emergence, butterfly effects, path dependency and some other strange properties. Cities can be seen as complex systems (Batty 2005), since the huge number of elements do not exactly behave according to patterns of linear interrelationships. From a system point of view, the dynamic interrelationships of elements and the adaptation to changing conditions are the most relevant features of towns and cities. We can define a town as a settlement where people successfully adapt to the conditions of agglomerations of people, where the town is larger than the mean size of surrounding agglomerations, by taking advantage of the special conditions and coping with the specific problems related to differential size. This definition requires no specific size, no specific functions, no specific organizational structures and no specific way of life. It just states that towns and cities are different from rural settlements, because of their size and means of adaptation to that size. In different conditions, times and regions, the size and the means of adaptation can be different. This approach allows the comparison of towns and cities on a rather abstract level and the exploration of the mechanisms of urbanism.

We will try to apply this concept to the *Heuneburg*. First, however, we have to consider population and complexity. Growing populations of towns and cities cause certain problems. Human beings can only manage a certain number of effective contacts. In this context, effective means a certain intensity of interaction and that the interaction usually results in social, economic or cultural effects. There are different community size thresholds (MacSweeney 2004, Feinman 2011) such as 175 and 375 individuals in a community.

Table 7.1. *The effect of some kinds of complexity reduction on two community size thresholds. Restricting the interactions to groups, neighbours or a hierarchy changes the number of valid interactions of a community. A community without restrictions and 15,312 possible interactions, for instance, reduced the number of interactions to 700 if interaction with only four neighbours is allowed. A hierarchy reduces the number further to 174 which meets approximately the first threshold mentioned in the literature. If we apply the threshold of 175, the community has a maximal size of 175 members and becomes unstable when growing above this threshold. Communities with eight groups, four neighbours or a hierarchy can have 1400, 3828 or 15,400 members. Similar calculations can be done with a threshold of 375.*

				
Methods of complexity reduction (cr)	no cr (n*n)	groups (8)	neighbours (4)	hierarchy
Threshold 175, different methods of complexity reduction (cr)				
Sum of interactions in system	15,312	1914	700	174
Max. size of community based on system interaction	175	1400	3828	15,400
Threshold 375, different methods of complexity reduction (cr)				
Sum of interactions in system	70,312	8789	1500	374
Max. size of community based on system interaction	375	3000	17,578	70,500

Communities exceeding the threshold become unstable or have to apply methods of complexity reduction. Usual methods of complexity reduction are the restriction of the effective contacts to a certain number. It is possible to restrict the effective contacts a) to within-group-connections, b) to neighbours of a certain kind or c) to the edges of a hierarchical network. The last one is the most efficient. The 175 threshold increases to 1400, in the case of a restriction to in-group contacts of eight groups, to 3828 in the case of restricting to four neighbours, and to 15,400 for the hierarchy restriction (Table 7.1). The restriction does not necessarily mean that people are not allowed to talk to each other outside the permitted contact group. It just states that there are cultural rules which make them less effective. Imagine the difference in communication with a) passers-by on the street, b) customers at the supermarket desk, c) with the boss and d) with real friends. In general, the first two types are not assumed to cause serious changes to one's life, while the others can. It is culturally important to act on promises to a friend or conversation with a boss.

If a community exceeds the threshold applicable to the method of complexity reduction in use, the community becomes unstable and a small change can trigger a collapse. According to Kurz (2010), the *Heuneburg* has a population of 5000 in Ha D1 and of 1500 in Ha D2, which would be a serious decrease and even a partial collapse of the settlement. A society, composed of different or even stratified groups would thus experience a sudden instability.

Traditionally, strong hierarchies are assumed for the Hallstatt communities. But how do we know? The assumption of hierarchy is based on the diversity of grave goods, from which a ranking from poor to exceptional rich finds is deduced. From this ranking, a hierarchy is interpreted and from the hierarchy an assignment of subordinates to superior individuals is deduced. If a hierarchy comprises a ranking and an assignment of power, the last deduction is correct. But the deduction from ranking to hierarchy is wrong, since a ranking without assignment of power would be possible and would comprise the existence of different social groups with different social significance but without proper power relations. This interpretative step is obviously a logical error, though it is very frequently made. Hence, while the assumption of hierarchy in Hallstatt society seems very plausible, the hierarchy is in fact very weak. This interpretative problem can be called the hierarchical pit fall. Furthermore, Schumann (2015), although he acknowledges a certain degree of hierarchy, interprets most extraordinary artefacts as indicators of prestige rather than social indicators. Prestige means a claim of power and importance rather than actual power and hence does not indicate hierarchies.

If there is no hierarchy but just a ranking composed of different social groups, then a change in temperature might have triggered the collapse of the *Heuneburg*. The decrease in temperature, occurring at the same time when the collapse occurs seems to be related to the collapse (Fig. 7.1). The temperature could be the trigger of the collapse, while the system properties, the instability of the society, which exceeded the population threshold, would be the actual cause of the collapse. According to this hypothesis, no external

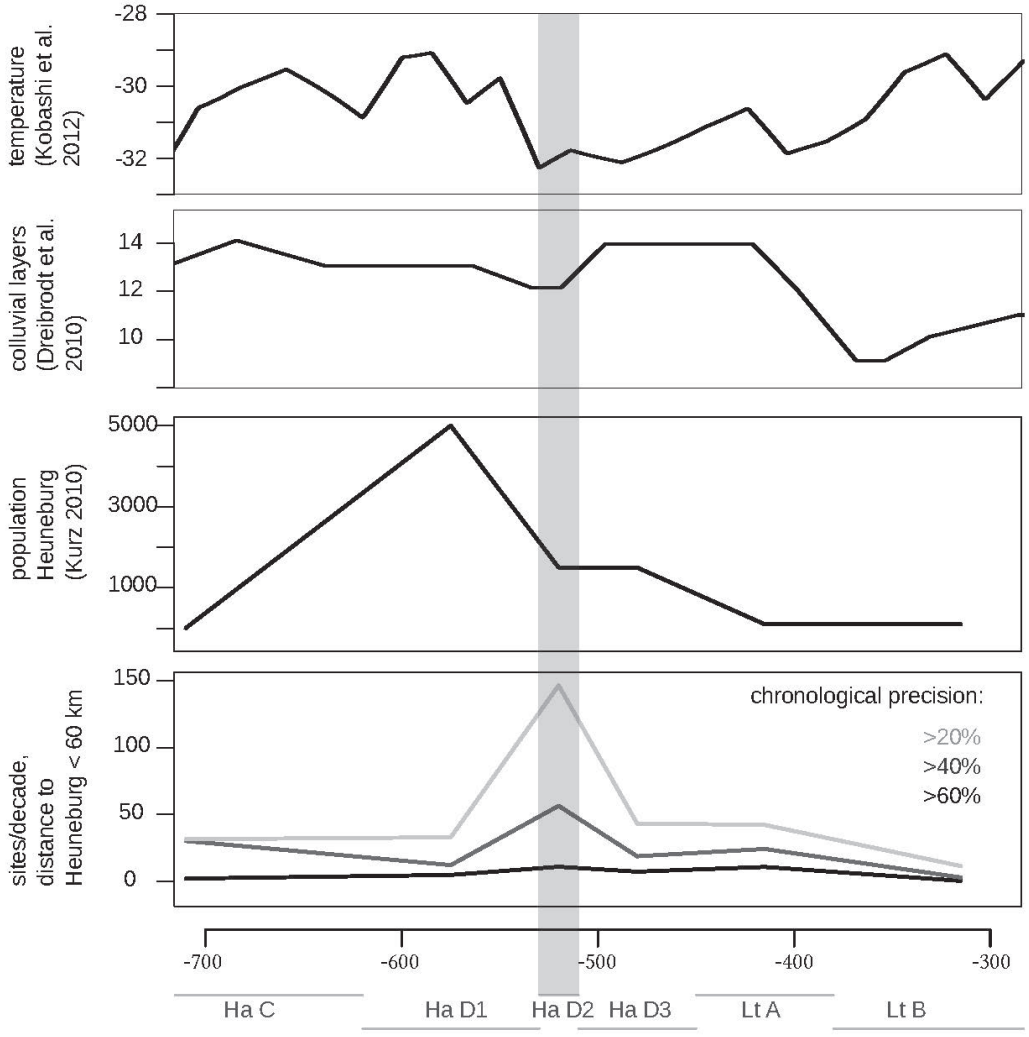


Figure 7.1. *Global temperature, colluvial layers in southwest Germany, the* Heuneburg *population and the number of sites in the* Heuneburg *vicinity in the Early Iron Age are mapped on the same time scale. The phase Ha D2 is marked with grey because all curves show a remarkable behaviour in this time. For the number of sites three degrees of chronological precision are indicated by different grey shades. In the case of 40 per cent, all sites dating to phase with a probability of more than 0.4 are counted.*

forces such as external conflict were needed to explain the collapse (Krausse et al. 2016). If this were true, the *Heuneburg* is not a town, since the adoption of social agglomeration was not successful.

Currently, we cannot prove either the traditional or the new hypothesis. However, with the use of agent based modelling (ABM) (Wurzer et al. 2015; Nakoinz and Knitter 2016, chapter 12) we can investigate, if the new concept works in principle. ABM is a kind of simulation. Like all models, ABMs are simplified mappings of a certain object or original entity used for a certain purpose. Models make some assumptions, have a certain way of using them and have a specific purpose. Simulations are models producing pseudo-empirical data. The model which might be filled or calibrated with some empirical data look like empirical observations, but are produced by the application of certain well-defined rules.

The idea of ABMs is to define some actors with specific rules of behaviour, an environment, in which they act, and a process. In the process, the digital actors implement certain actions according to the rules of behaviour, the environment and other actors. The process steps are repeated in a loop. Our model uses two types of actors, indigenous people and merchants. Both types of actors can move and trade in each step of the loop. While the indigenous have a short range, the merchants can have less restrictions of the distance of

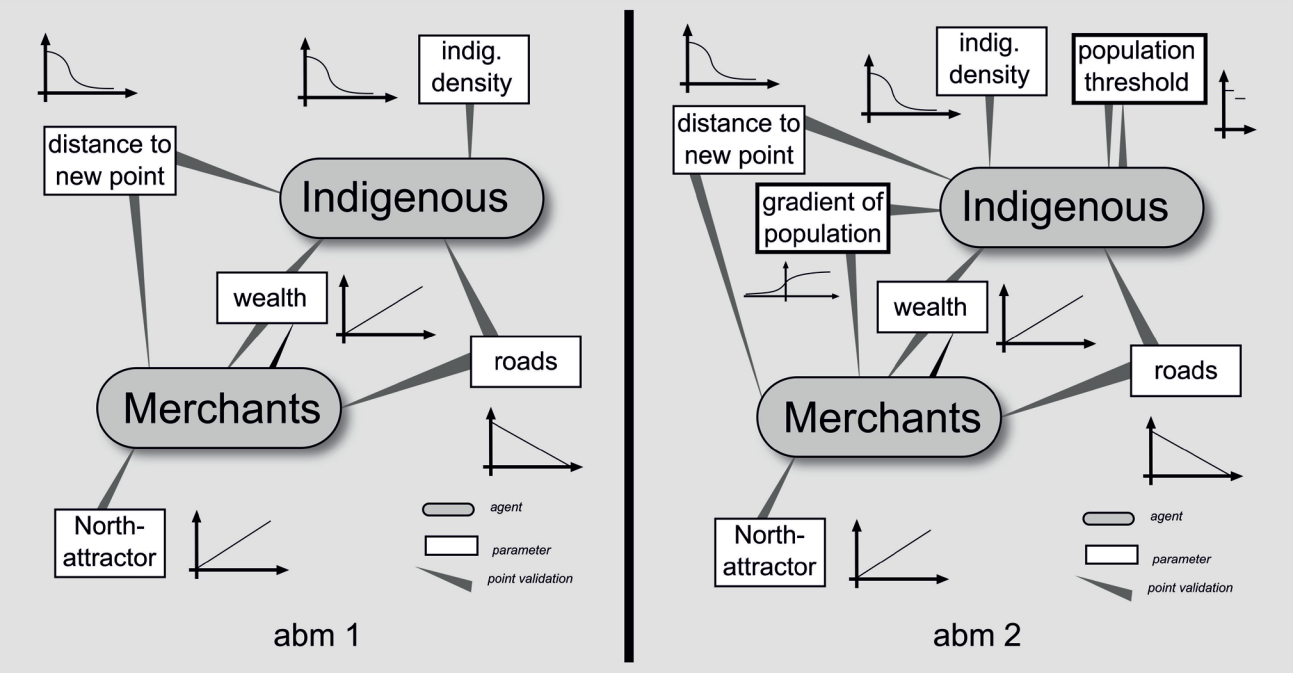


Figure 7.2. *Factors influencing the behaviour of the two types of actors in the two agent based models. In model abm 2 a population threshold is introduced and the population is dependent on the gradient of population. This leads to non-linear behaviour and hence to a certain degree of complexity which is not present in abm1.*

a move, but they are attracted by the north direction (Fig. 7.2). Both are attracted by roads, wealth and the density of indigenous people, but in different ways. This type of model produces rather stable distributions and agglomerations of indigenous people. Up to a certain degree, the resulting pattern can be predicted knowing the rules.

An ABM is much too complicated for just predicting the distribution of agents, when this is also possible with analytical approaches applied to the behaviour rules. The idea of agent based models is that the behaviour of the agents produces a global pattern, which is not predictable on the basis of the behaviour rules. ABM is in particular useful, if the system has some complexity. In our case study, we want to show, that the introduction of certain relationships results in a complex system. We introduce a population threshold and the gradient of population (Fig. 7.2). Growing populations are attracting and vice versa. The population threshold switches the attraction into a repulsion. These slight changes introduce complexity, and result in a dynamic system. Looking at the size of agglomerations, we find, that crises, collapse, recovery and competition are possible (Fig. 7.3). Again, this does

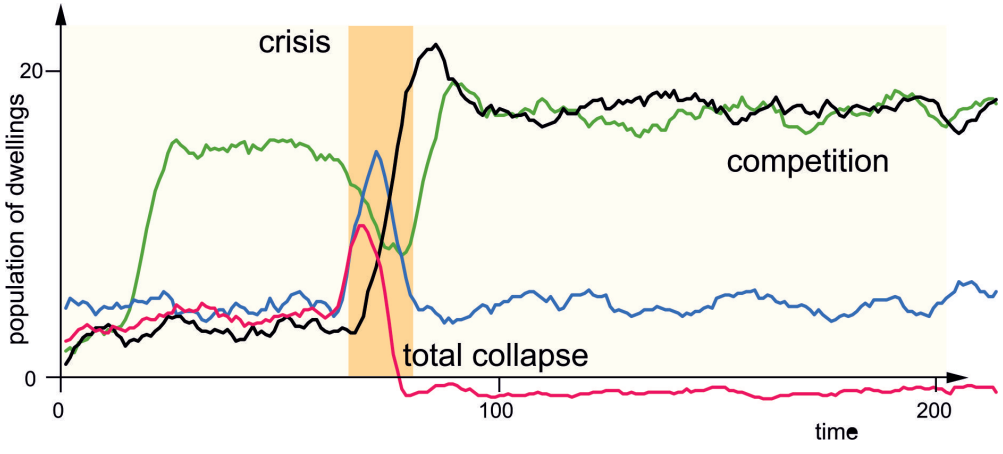


Figure 7.3. *Populations of some settlements and interpretation according to one simulation run of abm 2.*

not prove anything, but does show that a population threshold can lead to a complex system in which a collapse of agglomerations is possible. The simulation shows that the interpretation provided above is a possible scenario

An alternative narrative of *Heuneburg*

Based on these considerations and on other results (Nakoinz 2013a; Nakoinz 2014), we can develop an alternative narrative (Fig. 7.4) for the *Heuneburg*, which does not require external forces in order to explain the partial and the final collapse of the *Heuneburg*. The Hallstatt society in Ha C shows moderate trade and social stratification. When the *Heuneburg* was founded, whether deliberately or by accident at a strategic location, the increasing Mediterranean contacts triggered the nucleation of people at this place. The *Heuneburg* became a network centre, a gateway, which managed the exchange between differently organized spheres to the north and south. The social structure comprised a segmented society with differently ranked groups rather than taking on a proper hierarchy. The *Heuneburg* élites were more successful entrepreneurs than the rulers of larger territories, but they had to demonstrate their success in order to attract more trading partners or merchants to whom they could offer their services. This successful strategy in a successful place attracted more people than the population threshold allowed for in this type of *complexity reduction*. At the transition to Ha D2, the decrease of air temperature lowered the crop yields by a small but significant value. Consequently, the population probably became slightly higher than the carrying capacity over several seasons. The social system managing the level of nucleation became unstable. The organizational structures were not adapted to the size of the agglomeration. Internal tension and civil war led to the burning down of the famous mud brick wall and a demographic flight from the *Heuneburg*. Significant parts of the population moved to rural areas

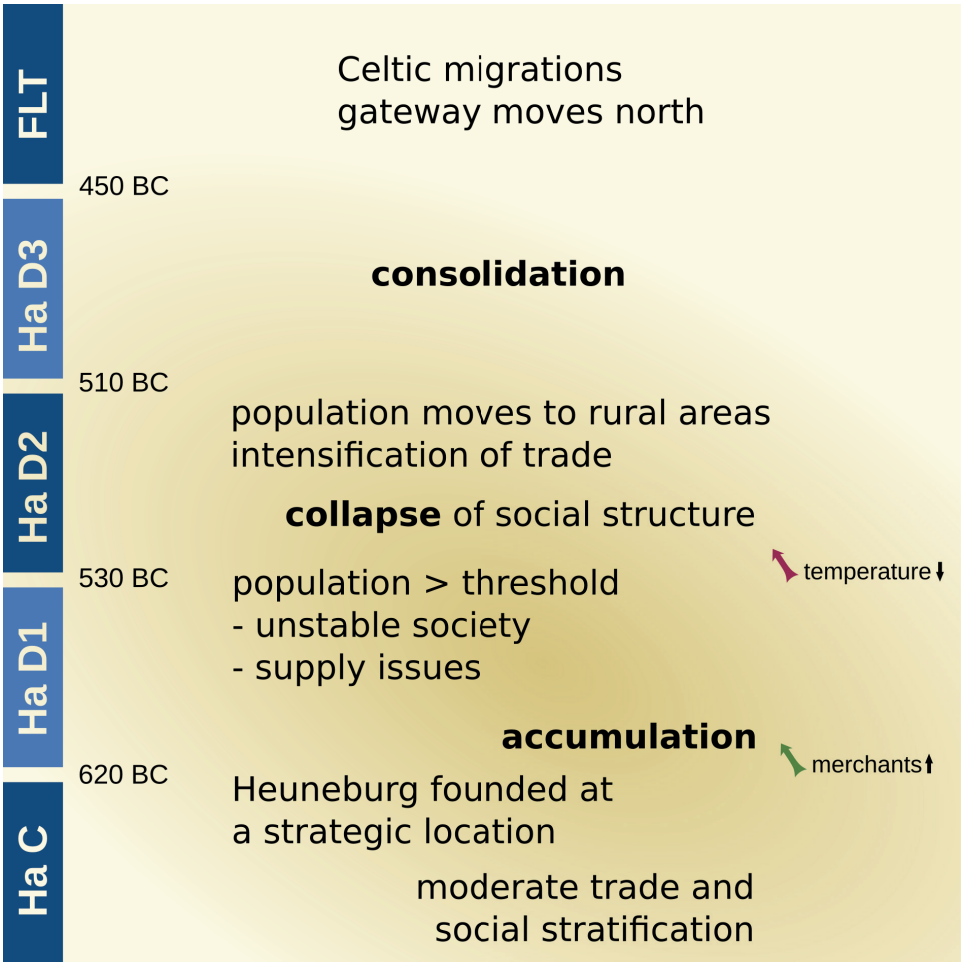


Figure 7.4. *An alternative narrative of the* Heuneburg *development.*

in the surrounding areas of the *Heuneburg*. In terms of population levels, the *Heuneburg* never recovered. However, in Ha D2 the *Heuneburg*, nevertheless, experienced a climax of economic success with the highest degree of trade and wealth in the whole region. In particular, the gateway function of the site produced a significant concentration of visible wealth. It is likely, that, after the collapse a political reorganization took place, which restricted access to the *Heuneburg* and also could have introduced a proper social hierarchy. Even if a change towards a hierarchy took place, the basis of wealth was still a gateway function and was not based on a large territory. A phase of consolidation thus took place immediately after the collapse and during Ha D3. The end of the *Heuneburg*, for this reason, took the form of a silent death rather than a dramatic collapse. In later periods, the contact zone between the two spheres to north and south moved northwards (Brun 1988, Krausse 2008a, Nakoinz 2013a) and the gateway function was lost in this precise location. Finally the *Celtic* migrations removed significant parts of the population from the whole region.

Conclusion

As mentioned above, the town definition and the urbanism test serve rather as a heuristic approach than as a research objective. The objective is to understand the mechanisms of urbanism. Different quantitative approaches provide us with some insights, even if we reject the definitions. In particular, the structural approaches, although they do not cover the whole phenomenon of urbanism explain some of the mechanisms of urbanism.

The result for the *Heuneburg* is that the place is a town according to some indicators and is not a town according to others. Even the last approach, the system approach, which does not consider the *Heuneburg* a proper town, acknowledges that a certain process of urbanization started at the *Heuneburg*, but was not completed. This corresponds to the results of Brun and Chaume, who speak of an unfinished urbanization, based on a completely different set of considerations and definitions (Brun and Chaume 2013). This indicated that we should shift our focus from urbanism as a condition of a settlement and state of a system towards urbanization. Urbanization in this context is not understood only as the emergence of towns, but a continuous process of adaptation, which is characteristic for certain settlements, which we call towns.

It seems to be more appropriate to investigate the different regional and temporal modes and characteristics of the process of urbanization, including the whole range of degrees of urbanism than just to look for the characteristics of cities in contrast to rural villages. Quantitative approaches understood as data transformations and connected to a decent theory help to enlighten the urbanization process. In particular, they allow us to distinguish different modes and degrees of urbanism. A definition of towns and cities, and this is still thought to be a heuristic approach, which in particular focus on the process of urbanization, should be based on system properties instead of specific settlement characteristics. Agglomerations develop specific organizational, social, economic and cultural structures. These structures form an environment, in which the agglomerations gained a degree of stability. Based on these considerations, we can define a town as a settlement where people adapt to the conditions of agglomerations of people by taking advantage of the special conditions and coping with specific problems.

Chapter 8

Not built in a day – the quality of Iron Age urbanism by comparison with Athens and Rome

Katja Winger (Berlin)

This paper is derived from my presentation at the symposium where my task was to discuss the quality of Iron Age urbanism. I decided to do this by comparing the sites of *Heuneburg* and *Manching*, the most prominent and best investigated Iron Age sites from Germany, with sites no less than *Athens* and *Rome*, two showcases for ancient urbanism. However, before we take a look at the sites themselves, I will make some remarks about the concept of town and city – two terms that I will use as synonyms in this article – (cf. Fernández-Götz et al. 2014).

Not only towns and cities

After the introduction of the concept of urbanism for prehistoric communities by Vere Gordon Childe (1950), Iron Age archaeologists were required to think about this subject. The result has been a plethora of alternative characterizations of urbanism, while skirting the usage of the very term itself. Frank Kolb´s book about ancient Mediterranean towns established the common definition of urbanism from an ancient historical perspective (Kolb 1984). He pointed out the features 'topographical closeness', 'administrative and political separation', 'number of inhabitants' and 'urban lifestyle' for an ancient city and thus raised the bar virtually out of reach for prehistoric settlements. After a long and rather fruitless controversy, Bernhard Hänsel proposed analogous criteria for prehistoric settlements (Hänsel 2005). He highlighted 'settlement size', 'topographical concentration of occupation', 'variability of archaeological structures', 'economic diversity' and 'long-distance contacts'. 'Long-lasting continuity of urban space' was added as an additional criterion, but not as a *sine qua non*.

Beyond these checklists, Jurij Wiktorowitsch Andreev stressed the transformative character of settlements and introduced the terms quasi-city and proto-city (Andreev 1989). The geographer Walther Christaller asserted settlement function as 'central places' providing certain services to their hinterland (Christaller 1966). Based on knowledge about medieval settlements, Eike Gringmuth-Dallmer developed a systemic model by combining geographical and archaeological data (Gringmuth-Dallmer 1996). His model ranks settlements with certain functional criteria and uses the term 'complex centres' to avoid the problems with the term town/city. Along with these prominent models, a large number of other terms and patterns exist. So we find ourselves faced with a number of different and also poorly defined terms like the afore-mentioned towns, cities, quasi-cities, proto-cities, pre-urban, proto-urban, urban-like or largely urban settlements. Furthermore, we can add complex centres and central places. Additionally, the terms used by Caesar to describe Gallic settlements as *oppidum*, *vicus*, *aedificium*, *castellum* or *urbs* are widely employed by scholars (Caesar, *De bello Gallico*). Just to name a few more terms common in the definition of Iron Age settlements, I also want to recall the thoughts of Vladímir Salač, who introduced the terms 'Lowland Oppida', 'Hilltop Oppida', 'Production and distribution centre' and 'Němčice-Roseldorf-type centre' (Salač 2005; 2009). For the Early Iron Age, we also have to deal with Wolfgang Kimmig´s model of the *Fürstensitz* (Kimmig 1969) and should not forget that Herodotus designated Pyrene (be it the *Heuneburg* or not) as a '*polis*' (Herodotus, II 33). Apart from the aim of systematizing the archaeological record, most of these terms are first of all used to avoid designating a settlement as a town or city.

For the Mediterranean, we can detect, as far as I can see, a rather uncritical and widespread use of the words 'town' and 'city' for the whole variety of settlements in the Ancient world (cf. Preston & Owen 2009, 1). A city, in this context, is often mainly seen as a collection of architecture.

Ancient Historians as well as classical archaeologists divide the phenomenon of urbanization into endogenous and exogenous examples (Vittinghoff 1978). Endogenous hereby means an independent development of cities, while exogenous cities, for example the Greek, Hellenistic and Roman colonies, are seen as a transfer of the urban idea of their metropolis to a new geographical location. Of course there are transitions between these two models – for example when colonies are placed on former indigenous settlements.

Athens and the Heuneburg

My four case studies are typical examples of endogenous urbanization. The first similarity between all of them is their special topographic position, on points of intersection between sea and land routes. The cities developed in long settled areas, even though some interruptions can be detected particularly in the cases of the *Heuneburg* and *Manching*. The first two places – *Athens* and *Heuneburg* – both possess a prominent hill and are situated at places where arterial roads meet navigable rivers. The application of the term *Akropolis* from *Athens* to the hilltop plateau of the *Heuneburg* by Wolfgang Kimmig was the initial point of his *Fürstensitz* model (Kimmig 1969). This acropolis, by contrast with the *suburbia,* was directly connected to the image of the Greek *polis* in the time of tyranny.

To draw a short biography of both places we have to start long before the Iron Age. Of course, the chronologies are not in parallel, but what follows is an attempt to compare the development of the settlements during the politically relevant periods. Archaeological finds date the beginning of settlement in the wider area of *Athens* to the late seventh millennium BC (Welwei 2011, 3–8). Written sources give the Athenians´ belief that their ancestors always had been living at the same place (Herodotus VII, 161,3; Thucydides I 2,5) providing a link to mythical, heroic times. Of course we do not have similar sources for the *Heuneburg*, but from the archaeological point of view we can detect Neolithic traces (Fernández-Götz 2014e, 26), and even infer that a similarly mythical linkage might have existed. Unfortunately, these traces have been strongly affected by later periods and mainly consist of stray finds. In *Athens*, Neolithic wells and buildings are known from the Acropolis (Welwei 2011, 4) and at the *Heuneburg* a possible Neolithic ditch system has been traced (Krausse et al. 2016, 41–2).

More material is available for the Middle and Late Bronze Age, when the *Heuneburg* plateau was a fortified settlement. Recent excavations also brought to light several Bronze Age finds from the lower town and outer settlement (Krausse et al. 2016, 46–7). For *Athens*, the Bronze Age (Helladic period) material is very rich, although it mostly consists of sherds which mainly come from the fills of wells and graves (Wycherley 2015, 253–60; Mountjoy 1981). One special case is the remains of a Mycenaean palace, including access to the underground watercourses of the acropolis (Broneer 1939; Nylander 1962).

After a hiatus lasting some centuries, the classical years of the Iron Age *Heuneburg* began. While settlement traces from the plateau are absent between

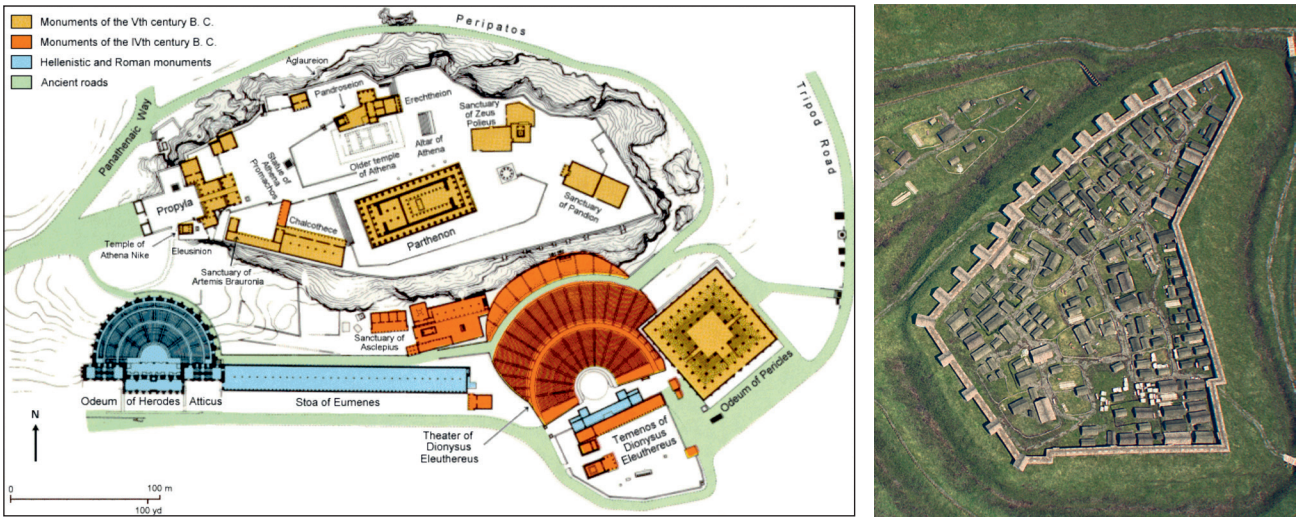


Figure 8.1. *Ground plan of the acropolis of* Athens *(after Papathanassopoulos 1991, fig. 12) and idealized 'drone' image of the acropolis of the* Heuneburg *(after Krausse et al. 2016, fig. 43) to the same scale. The similarity in the size of the plateaus is striking. Most of the buildings shown on the left of the figure are more recent.*

Hallstatt A1 and Hallstatt D1, the region around the *Heuneburg* was never completely deserted (Fernández-Götz 2014e, 26–7). The Iron Age also represents the classical times of the Athenian city that was continually settled. After a period of insignificance, the change is connected with the names of Draco and Solon.

After arrival in the Iron Age, the crucial periods of both places, it is the moment for a more detailed comparison of their features. In *Athens*, it is noteworthy that the most common pictures mostly show Classical structures. Most of her prominent buildings did not exist during the heyday of the *Heuneburg*. One exception is the parts of the so called 'older temple of Athena' which was built in the last quarter of the sixth century BC on the acropolis and survived in the so called Persian destruction levels (Childs 1994). In the sixth and fifth century, *Athens* looked more like a village than a town and was mostly defined by agricultural production (Vittinghoff 1978, 553).

The size of both settlements was quite similar (Fig. 8.1). An examination of the ground plans of both hills shows a size of about 3 hectares. Of course, both settlements had a huge amount of lower and exterior settlement and it is hard to determine the area belonging to the town itself. For *Athens*, the city walls from the fifth century BC document an enclosed area of about 215 hectares at this time. The size of the territory in the sixth century is not actually that clear, but by inference from the population increase in the fifth century BC, it can be assumed to have been much smaller. At the *Heuneburg*, recent research has traced an increased understanding of the outer settlements to reach a size of about 100 hectares (Krausse et al. 2016, 83–4). To determine the size of the actual hinterland of both settlements is inordinately more difficult (for *Heuneburg* cf. Nakoinz 2009, 364–8; Sievers 2008). The historical region of Attica has a size of almost 300,000 hectares, but included several areas of land without agricultural value and was of course never was completely settled (Lohmann 1993, 285; for the rise of the Athenian *polis* and the role of its *chora* cf. Snodgrass 1991, 14–17). Isotope analyses on bovine and pork remains proves the mobility of Iron Age cattle (Stephan 2016), which can be seen as a first step to discover the real territory of these settlements in Germany. Similar results have been made for the pollen from honey found in *princely* graves near the *Glauberg* (Rösch 2002), but should be interpreted cautiously because of methodological difficulties.

Any calculation of population levels is highly dependent on the size of their territory. When we think of ancient *Athens*, we mostly have in mind the classical periods with their well-known buildings, personalities and tens of thousands of people. Nevertheless, the sixth century, the time in which the Homeric epics were textually edited, had little in common with the idealized picture of Democracy. For the sixth century, *Athens* most scholars assume a number of about only 5000 people which is a number similar to that supposed for the *Heuneburg* in Ha D1 (Kurz 2010, 249).

We know very much less about who these people actually were. For *Athens*, we have written sources which mainly cover politics, and thus the tyrants like *Peisistratos* and other members of the aristocracy, who often distinguished themselves as military leaders. These élite families can also be found in grave architecture (Wycherley 2015, 253–60). Without written sources, we can only assume that the men, women and children from the élite burials of the *Heuneburg* area (e.g. Krausse et al. 2016, 113–38) may have formed something similar to this aristocracy. For both societies, the information about the socially 'lower tens of thousands' is especially rare. For *Athens*, the existence of dependents and slaves is *documented*, but for the German Early Iron Age we can only state the absence of many people from the burial record (cf. Trebsche et al. 2007). As town and country are an inseparable entity, the presence of farmers who sold their goods in the city can be assured, as well as the availability of merchants and craftspeople in both settlements.

In the times of tyranny, enormous building programmes were started in *Athens* – like the monumental temple of *Zeus Olympios* initiated by *Peisitratos*. The *Heuneburg* also exhibits an extremely differentiated picture of building structures including the monumental stone gate, the famous mudbrick wall and the younger major buildings (Gersbach 1996, 102).

Rome and Manching

The second pair of places is also characterized by their location near a navigable river and accordingly a harbour. The cities cover a much wider territory and are not dominated by a single acropolis. In terms of size, *Rome*'s first city walls already surrounded a slightly larger territory than the wall at *Manching* (Fig. 8.2). In terms of the fact that both settlements had sparsely populated and agrarian areas inside their walls, the actual size mostly depends on the particular topographic configuration. A determination of the size of the hinterland of each town is even more difficult than for *Athens* and *Heuneburg* (for *Manching* cf. Sievers 2008). While a Greek *polis* used to have a certain *chora*, Rome expanded its sphere of control to become the outstanding centre of the *Imperium Romanum*. For *Manching*, the hinterland surely can be found in the Ingolstädter Becken, but as the work of our colleague Michèle Eller (forthcoming) brought to

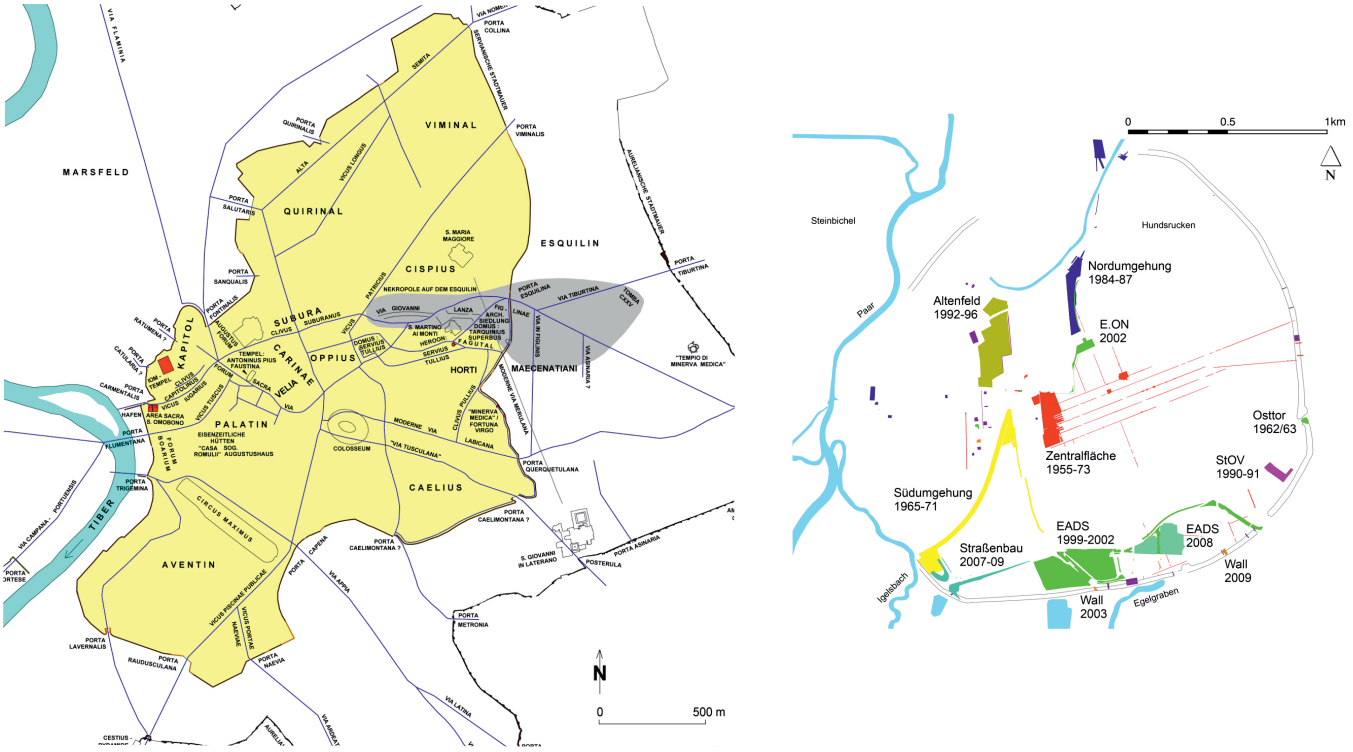


Figure 8.2. *Ground plans of* Rome *with the area surrounded by the Servian Wall marked in yellow (after http://www.rom.geographie.uni-muenchen.de/publications/ArchStadtRomHaeuberMapA.jpg accessed on 4 Feb. 2017) and the* oppidum *of* Manching *with the main excavations (after Sievers 2007, fig. 14). Again, the size of both places is quite comparable.*

light, the settlement structure is much more difficult than for example in Ancient Attica, and the functional differentiation between sites like *Manching*, *Kelheim* and *Berching-Pollanten* needs to be determined.

Both places have a long biography. Several Neolithic finds come from the later *oppidum* of *Manching* (David 2008, 89), which lies on an important arterial road used at least since the Bronze Age (Sievers 2007, 20–1; Sievers 2008, 13). The population of the Iron Age town was surely faced with some visible finds from these epochs and they must have wondered and created oral mythical traditions about the presence of possible ancestors in the Bronze Age graveyard (Nieszery 1992). For *Rome*, several places with Bronze Age settlement structures and sherds are known that predate the mythic Romulean foundation traditionally thought to take place in the eighth century BC. The fact that the Romans were also well-aware of the history of their city can be seen in the 'House of Romulus' that was presented on the Palatine Hill in Augustan times (Coarelli 2013, 155–62). The main period of Iron Age settlement in *Manching* lies in the early fourth to first half of the first century BC. In this turbulent time, *Rome* built the Servian wall after the sacking by the Gauls in 390 BC, which was expanded in the course of the Punic Wars and suffered in the Civil Wars that led to the end of the Roman Republic.

The number of inhabitants is hard to specify in both cases. *Rome* derived its nucleation or *synoikismos* from several settlement cores and increased its population from hundreds in the eighth century to a tremendous million in the times of Augustus (Kolb 2007, 22; 71; Brunt 1971). Reliable numbers between the fourth and first century BC do not exist, but they should lie somewhere between thousands and hundreds of thousands of people according to the known census data. For *Manching*, the idea of a *synoikismos* is also a probable scenario from interpretation of the two early cemeteries (Sievers 2007, 24–7) and the abrupt rise of the settled territory parallel to the abandonment of settlements in the hinterland around 200 BC (Eller et al. 2012; Winger 2015, 109–111). The number of inhabitants can only be guessed as amounting to thousands of people (Sievers 2007, 55).

Visitors surely noticed the moment when they entered both cities. Although the *Murus Gallicus* in *Manching* was not built until the final decades of the second century BC, the boundary of the settlement had

been distinguishable in earlier times from the presence of ditches similar to the Roman *pomerium* (Brestel 2015). Inside the town walls, diversified building structures indicated various functions of buildings like sanctuaries, stables, craftspeople workshops and the like (Fig. 8.3; cf. Wendling 2013, 473–6). Unfortunately later building has prevented the preservation of hardly any house of this time in *Rome*, not least because the large building programme of Augustus which claimed to have turned a city of bricks into one of marble (Suetonius, *Augustus* 28,3) reworked a tremendous number of buildings. One isolated surviving example

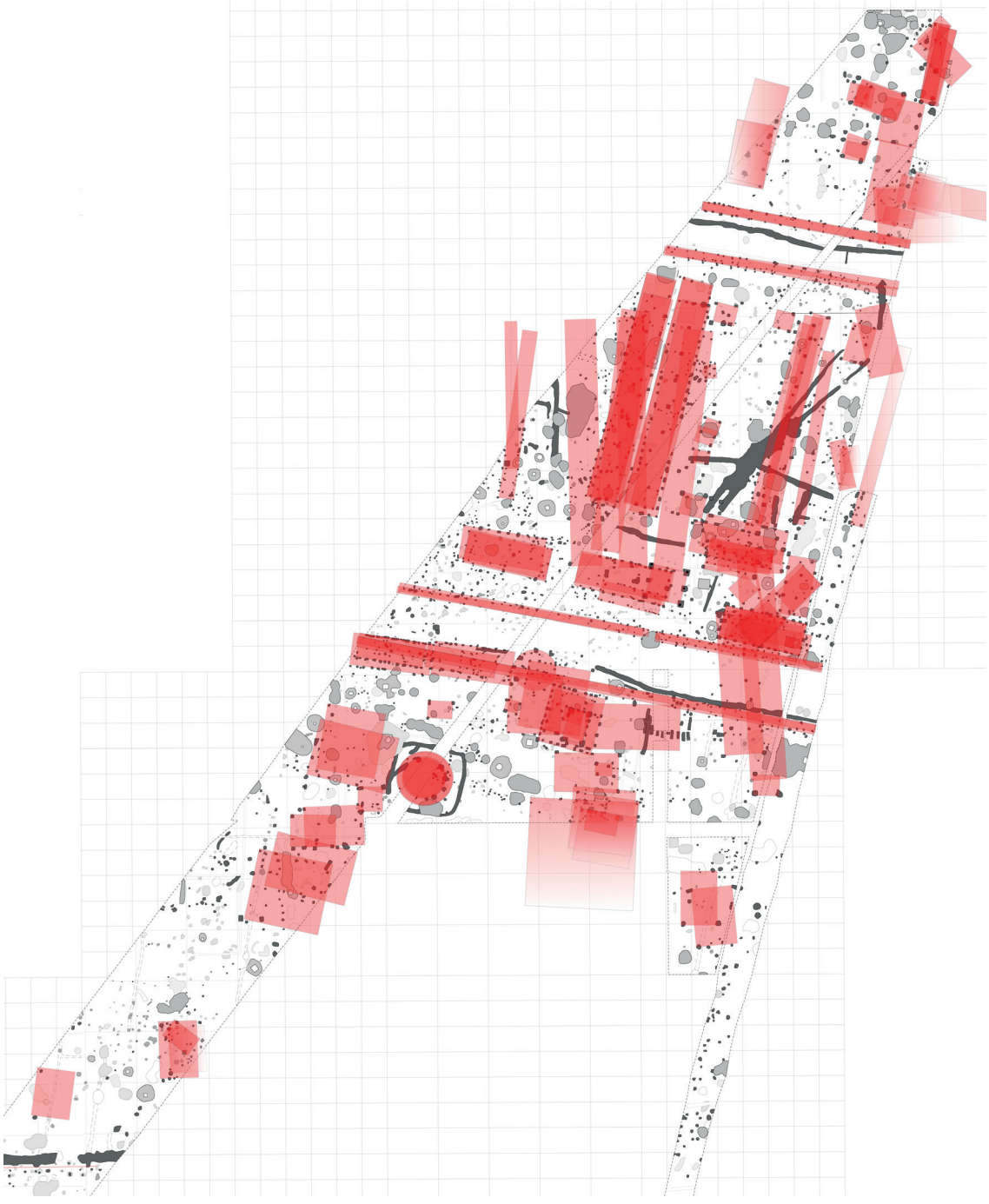


Figure 8.3. *Diversity of building structures in the northern part of the 'Südumgehung' at* Manching *– longhouses (stables and barns), workshops, temples, residential buildings etc. (Winger 2015, fig. 83).*

is the temple of *Hercules Victor* in the *Forum Boarium* which was erected in the second century BC and is the oldest preserved marble building in *Rome*.

The town/city centres in both cases were the areas with the highest accessibility and thus were characterized by public open spaces, important sanctuaries and – only proven in the case of *Rome* – political and administrative buildings. These open spaces and sanctuaries in both settlements offered space for representation and ritual acts that surely played an important role for the formation of towns (Fernández-Götz 2014d).

The societies of both settlements included an aristocracy which revealed itself by extraordinary wealth and building structures. Both cities surely had priests – in the case of *Manching* this group of persons might be identical to the term 'druids' mentioned by Caesar. Other groups like merchants, craftspeople, farmers and slaves are also proven for both cities.

If we take a look at the four settlements compared in this paper nowadays, significant differences of course occur. While the *Heuneburg* and *Manching* are far behind in their relative importance in Iron Age times, both *Athens* and *Rome* have also intermittently grown and are modern metropolises today. *Rome* retains the most amazing biography, as it stayed in the middle of different territorial, political and cultural systems. It was the centre of the Latin League, the Roman citizens and their colonies, the Mediterranean Imperium and the Latin Christianity. Thus, the only thing held in common for *Rome* and *Manching* today is the fact that both of them are a location for an airport because of the flatness of the local terrain. *Athens* similarly lays claim to its international importance as the foundation place of democracy and a broad linkage to events such as the Olympic Games.

Identity and the city: 'I want to be a part of it'

After this very brief contrasting juxtaposition of Athens and *Heuneburg*, *Rome* and *Manching*, I want to raise the question level of the quality of life for the inhabitants of these settlements. It is not without reason that Roman aristocrats almost regularly had country residences to escape the Eternal City (Kolb 2007, 44–7). With a high level of inhabitants, social stress and risk of epidemic infections escalates. Waste, refuse and smells become a problem in bigger settlements. However, just as today there were more benefits to attract the vast number of people to live in the cities: It is in the nature of things that living in the town always means a benefit of education and innovation. In contrast to rural settlements, a city also provides its people with breaking news, access to foreign goods and a closeness to social and political organization. We know very little about the social networks of the benefits for the deserving poor of *Athens* and *Rome* in the relevant periods and we know literally nothing about this for *Heuneburg* and *Manching*. However, it can be assumed that there were more opportunities not only for the rich, but also for the poor, sick and beggars, as well as for thieves in the urban settlements.

As the resident of a Greek *polis* saw himself as an Athenian or Spartan and modern teenagers from Berlin look down on their contemporaries from provincial Potsdam, we regularly identify with the city we are living in. Paul Sinclair and his colleagues defined this as the 'Urban Mind' – a global phenomenon throughout time (Sinclair et al. 2010). Of course, this understanding of urbanism can be assigned to the Iron Age people living on the territory of today's Germany. In fact, the antagonism between townspeople and countrymen is no new phenomenon limited to a certain epoch or cultural environment and I profess here that the quality of life in the town or rural settlements is quite comparable during different times and between diverse cultural settings.

Conclusion

In conclusion, I suggest that we can detect a valid comparision between the Iron Age towns on German soil and the Mediterranean cities of Athens and Rome. To draw these analogies, it is essential to clear from our minds the images we have of ancient towns made from marble inhabited by philosophers and tragedians. Although *Athens* and *Rome* can look back on outstanding biographies, their seminal outline in times parallel to the heyday of the *Heuneburg* and *Manching* was relatively modest. In my opinion, this is mainly due to the fact that four examples of endogenous urbanization have been compared. When Holger Baitinger contrasted the layout of the *Fürstensitze* with the town of Selinunte that was a Greek colony and thus a planned city, with an already formed history, he hardly found any analogies (Baitinger 2013, 253–7).

It is obvious that this very short portrayal can only begin to trace the question of the quality of Iron Age urbanism. The author will try to develop this subject in future work and also involve remarks from the discussion after the presentation that *inter alia* stressed the idea of the *Axial Age* (Jaspers 1949).

Acknowledgements

I would like to thank the organizers of the original symposium, including Simon Stoddart. I am grateful to Axel Posluschny for pointing out the characteristics of the *Glauberg* pollen and to all the other discussants.

Part 5
Discussion

Chapter 9

Discussing Iron Age urbanism in Central Europe: some thoughts

Manuel Fernández-Götz (Edinburgh)

The Cambridge workshop 'Urbanism in First Millennium BC (Iron Age) Germany' provided an excellent opportunity for discussing recent developments in Iron Age archaeology in Central Europe. The last two decades have witnessed a spectacular increase in quantitative and qualitative data related to early centralization and urbanization processes in Iron Age Germany, from the large-scale project on the *Fürstensitze* (cf. Krausse 2008; Krausse and Beilharz 2010; Krausse et al. 2016) to the publication of new excavation monographs about key *oppida* such as *Manching* (Winger 2015) and *Martberg* (Nickel 2013). The papers presented at the workshop combined a presentation of new fieldwork results with some wider reflections on aspects such as the role of ritual and the interdependence between central places and their rural hinterland. Rather than addressing individual contributions, in this brief discussion piece I will concentrate on some general remarks from a comparative perspective. I have structured my comments in four main points: 1) The complexity of Iron Age agglomerations and the applicability of the term 'urban'; 2) The need of cross-cultural comparisons that go beyond the models of cities in the Classical world; 3) The contribution of the concept of 'low-density urbanism'; and 4) the role of open spaces.

The urban question

Thanks to the research carried out in the last few decades, it has become increasingly evident that the terms *Fürstensitze* and *oppida* cover a heterogeneous reality (Fernández-Götz et al. 2014b; Fichtl 2005; Krausse & Beilharz 2010; Sievers and Schönfelder 2012; see also Posluschny this volume). Neither of them represent a uniform group of settlements, but rather they were centres of power that could often vary enormously in terms of when they were established, their inner area, their architecture and the manner in which they functioned as central places. Thus, rather than making general statements about the urban or non-urban character of Iron Age agglomerations, we should base our assessments on contextual analyses that take into account the specific characteristics of each site. In this sense, I do not share the reluctance of some German scholars in applying terms such as 'urban', 'city' or 'town' to Iron Age temperate Europe; and it is interesting to note that different research traditions can play a role in the use of nomenclatures, since British, US, French or Spanish archaeologists are usually less hesitant in speaking about Iron Age 'cities'.

Geography, and in particular the academic distinction between the study areas of 'classical' and 'prehistoric' archaeology, can sometimes heavily influence interpretations. When visiting the *Heuneburg* a few years ago (cf. Smith 2014), my American colleague Michael E. Smith said that the discussion on the urban nature of the settlement reminded him of the debate around the North American mega-site of *Cahokia* (Pauketat 2009). If *Cahokia* were located in Mesoamerica, no scholar would hesitate in classifying it as an urban site, but, because it is in the middle of the Midwest, there has been an ongoing discussion on the matter. Similarly, if the *Heuneburg* or *Manching* were located in Central Italy, scholars would have little doubt in professing their urban character. From my perspective, some of the sites encompassed under the broad terms *Fürstensitze* and *oppida* were clearly not urban (e.g. *Zarten*/*Tarodunum* or *Finsterlohr*, which have yielded virtually no sign of any internal occupation). However, at the same time, we do have good arguments to classify other settlements like the *Heuneburg*, *Bourges*, *Manching*, *Corent*, *Titelberg* and *Bibracte* as cities or towns on the basis of criteria such as evidence of a preconceived plan, housing a population of several thousand inhabitants and bringing together different categories of population and activities (cf. Smith 2016

Table 9.1. *Archaeological urban attributes, with an application to the Heuneburg and Manching (after Smith 2016).*

Attribute	Type of variable	*Heuneburg*	*Manching*
Settlement size:			
population	M	5000	5000–10,000
area (ha.)	M	100	380
density	M	50	13–26
Social impact (urban functions):			
royal palace	P/A	-	-
royal or high aristocratic burials	P/A	x	-
large (high-order) temples	P/A	-	x
civic architecture	S	1	1
craft production	S	2	3
market or shops	S	?	?
Built environment			
fortifications	P/A	x	x
gates	P/A	x	x
connective infrastructure	P/A	x	x
intermediate-order temples	P/A	-	x
residences, lower elite	P/A	x	x
formal public space	P/A	-	x
planning of epicentre	P/A	x	x
Social and economic features:			
burials, lower elite	P/A	x	x
social diversity (non-class)	P/A	x	x
neighbourhoods	P/A	x	x
agriculture within settlement	P/A	x	x
imports	S	1	2

for an approach based on archaeological urban attributes) (Table 9.1). Moreover, as indicated by Caroline von Nicolai (this volume), some open agglomerations are closer to a contextual definition of urbanism than many fortified sites, so that we need to acknowledge their importance in Iron Age settlement patterns and society (see also Fichtl 2013; Salač 2014). Finally, we need to pay more attention to the interactions and interdependence between agglomerations and their rural environment (Fig. 9.1), as Günther Wieland and Gerd Stegmaier have rightly pointed out (this volume). In fact, it can be argued that one of the best ways to expand our understanding of Iron Age central places is to study the landscape around them.

Why we need to expand our comparisons

My second point concerns the need for placing Iron Age urbanism within the broader field of comparative urban studies. Despite the considerable attention that hillforts and *oppida* have attracted since the nineteenth century, Iron Age centralization processes have rarely been considered from an anthropological perspective (with some exceptions such as John Collis' 1984 seminal book on the *oppida*, which introduced concepts such as 'solar central place' and 'dendritic system'). Most approaches have focused on comparisons with the Classical world (particularly with Greek and Roman cities), interpreting the appearance of major settlements in Temperate Europe as a 'barbarian' attempt to emulate Mediterranean urbanization. The widespread distinction between prehistoric and classical studies and therefore between 'civilized' south vs. 'barbarian' north carries important implications for the way Iron Age urbanization processes have been traditionally examined and understood. This includes the use of 'checklist approaches' in which the urban character of a site is determined by its similarities with the supposed 'standard' model of classical cities, or the maintenance of diffusionist views in which cultural change among 'passive' Central European societies is dependent on the stimuli coming from 'active' southern

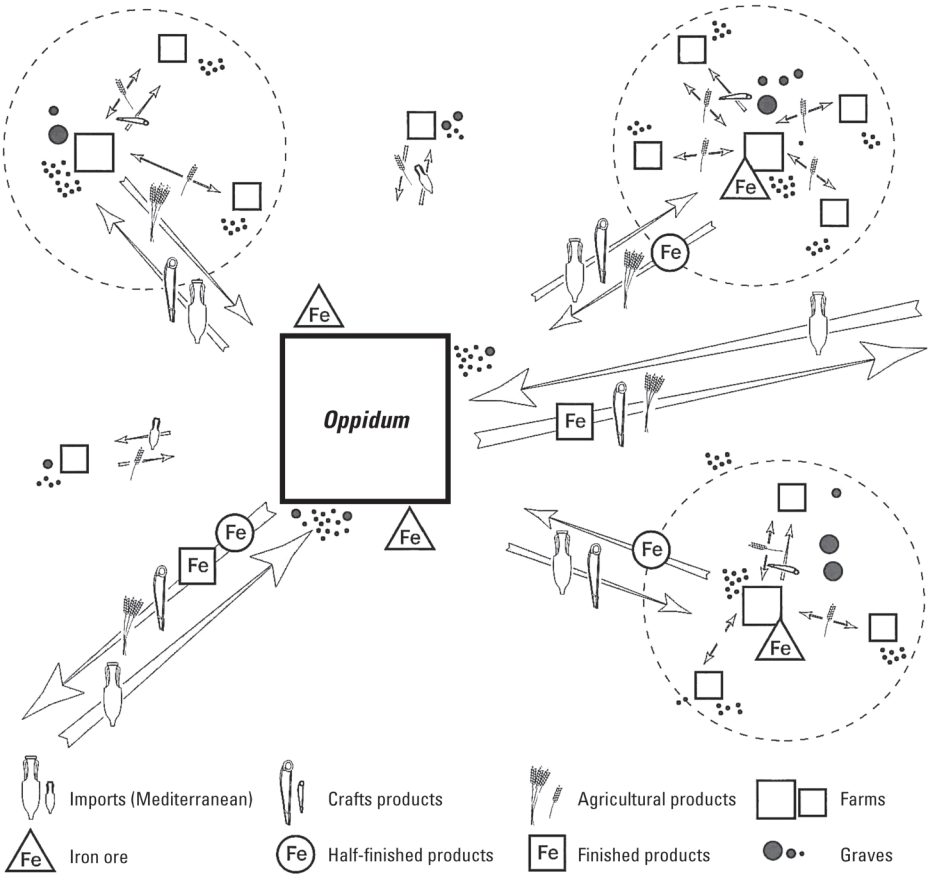


Figure 9.1. *Theoretical diagram of relations between the oppidum and its surrounding rural territory, based on the data of the Titelberg area during La Tène D (after Fichtl 2005, based on Metzler 1995).*

civilizations (see for example Kimmig 1983). As John Collis has rightly expressed it: 'One of the problems with the "diffusionist" model that has been applied to temperate Europe is that the characteristics of urban settlements have been largely defined in terms of the cities of the classical world; it is thus necessary to determine to what extent the European sites conform to this classical ideal. If, however, we expand our horizons in time and space, looking at urbanization on a worldwide scale […], we see a much greater variety in the urban phenomenon, of which the classical Greek and Roman sites are just one type (or more – there is also variety in the characteristics of classical towns); the urban sites in temperate Europe, as in medieval Europe, are based on different principles and characteristics' (Collis 2016: 265–6).

Rather than seeing urbanization north of the Alps as dependent on the Mediterranean, it is better to envisage two distinct zones evolving in parallel and in close contact with one another (Collis 2014). Having said this, I still consider it useful to establish comparisons and analogies with nucleation processes in the ancient Mediterranean, and Katja Winger (this volume) offers an enlightening example of how such an approach might work. But in order to achieve a better understating of Iron Age urbanization, it is useful to adopt a broader approach based on the comparative analysis of complex societies (cf. Smith 2012) and the multiple pathways to aggregation and urbanization (see for example Birch 2013; Marcus and Sabloff 2008; Storey 2006; Yoffee 2015). In this way, we can go beyond colonial dualisms and reductionist perspectives that obscure the rich diversity of urban forms in pre-industrial societies. Concepts such as Roland Fletcher's notion of 'low-density' urbanism (Fletcher 2009, 2012), Michael E. Smith's study of neighbourhoods as universal features of urban life (Smith 2010), or Monica L. Smith's discussion on the role of 'empty' spaces in urban sites (Smith 2008) can provide particularly fruitful insights for future research, helping to place Iron Age urbanism in Temperate Europe within a wider comparative framework.

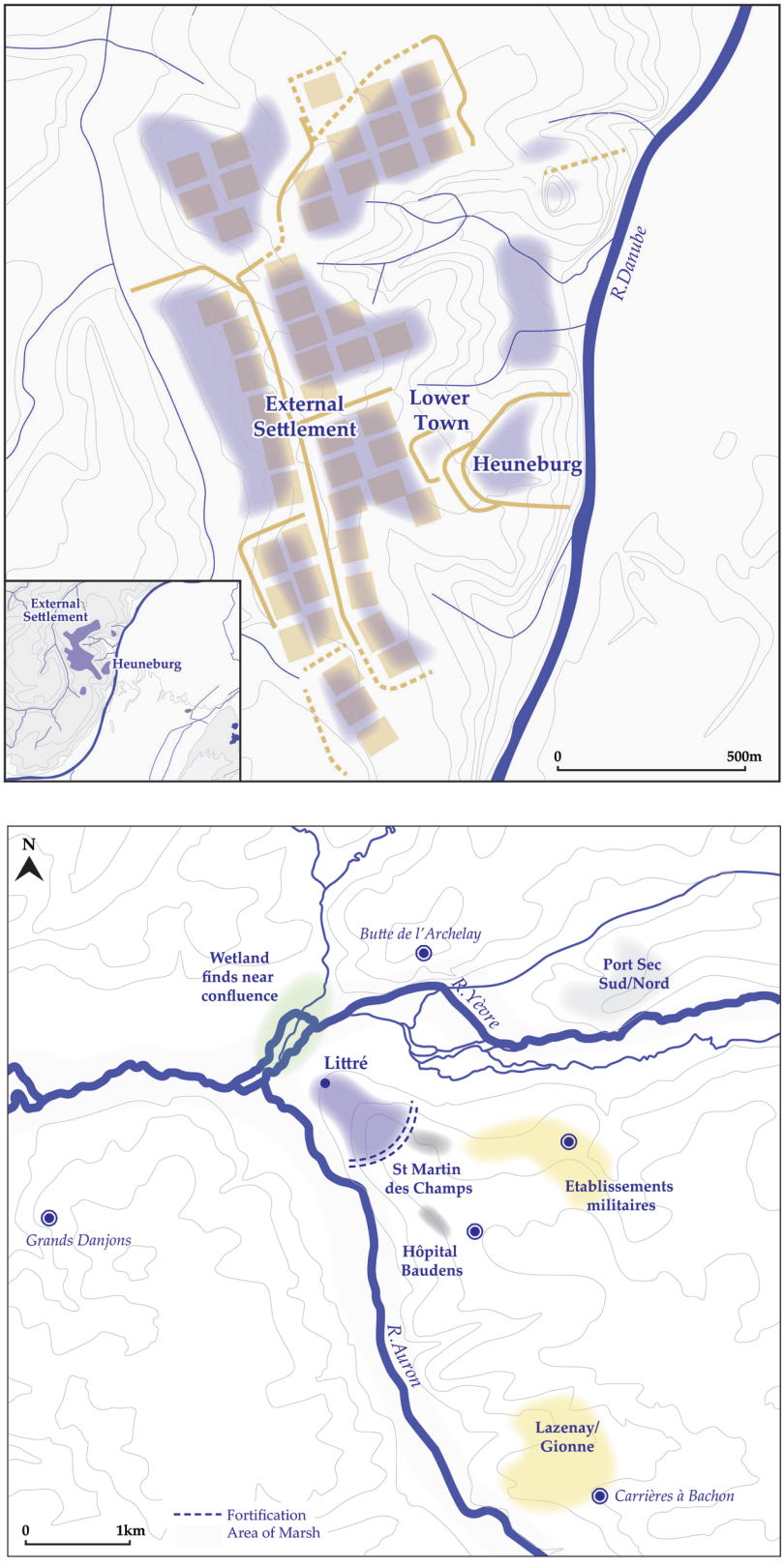


Figure 9.2. *Two examples of Iron Age low-density urbanism. (Top) Heuneburg, first half of the sixth century* BC*; (above) Bourges, fifth century* BC *(after Fernández-Götz and Ralston 2017).*

Figure 9.3. *Idealized model of the Heuneburg agglomeration, with the densely occupied hilltop plateau in the background, the lower town, and a low-density occupation in the outer settlement with farmstead-like compounds (after Krausse et al. 2016).*

The contribution of low-density urbanism

In this paper, I would like to highlight the work of the Sydney Professor Roland Fletcher and in particular his concept of low-density urbanism (Fletcher 2007, 2009, 2012). In contrast to concentrated, densely occupied settlements that would fit within Gordon Childe's classic model of urbanism (Childe 1950; for example Early Bronze Age *Ur* or *Uruk*, and Classical *Rome*), throughout history many urban sites all around the world have been characterized by their large areas and manifold functions but also by low-density occupation of often fewer than 50 people per hectare. Although cases such as *Angkor*, *Cahokia*, *Great Zimbabwe* and *Co Loa* are among the most famous examples, a significant number of Late Prehistoric European sites can also be added to the list, including the fourth millennium BC Trypillia mega-sites from Ukraine (Chapman and Gaydarska 2016).

As indicated by Fletcher himself, the Late Iron Age *oppida* also fit well into the notion of low-density urbanism, and the same can be said about the outer settlement of the *Heuneburg* or the nature of the Late Hallstatt and Early La Tène agglomeration at Bourges (Fig. 9.2). All these sites cover large areas but generally present a low population density per hectare. If we accept the estimations of 5000–10,000 inhabitants that have been proposed for both *Manching* and *Bibracte*, these major Late La Tène sites would have had a population density of 13–26 inhabitants per hectare in the case of *Manching* (380 hectares) and 37–74 for the second fortification phase of *Bibracte* (135 hectares). For its part, the 5000 inhabitants proposed for the 100 hectares agglomeration of the *Heuneburg* in the early sixth century BC would result in a population density of 50 inhabitants per hectare. M. G. Smith's term 'rurban' (Smith 1972) encapsulates the idea of the domination of many Iron Age agglomerations by unbuilt space, often more similar to farm landscapes than our traditional notions of urban quarters. However, we need to be aware of the complexity of existing situations: in the case of the *Heuneburg*, we observe an interesting combination between a synchronous very high-density occupation in the area of the hilltop plateau and a low-density pattern in the outer settlement (Fig. 9.3). At the same time, neither the Trypillia mega-sites nor

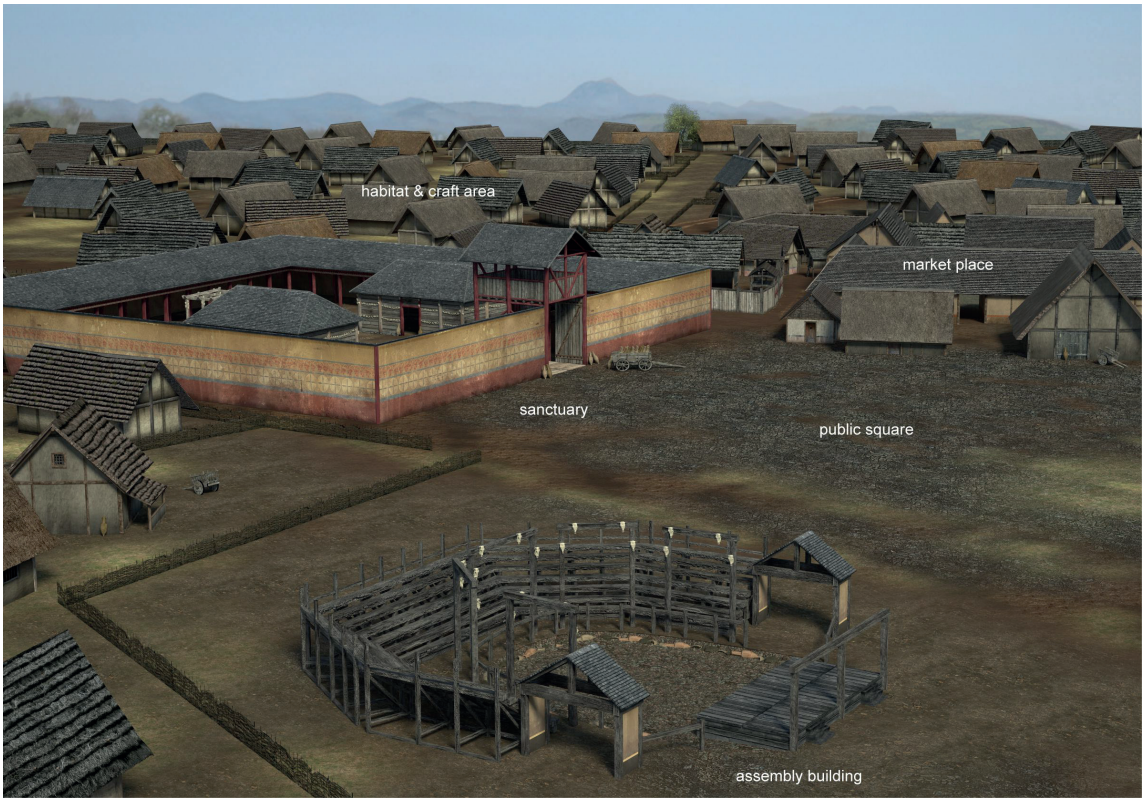


Figure 9.4. *Idealized reconstruction of the centre of the oppidum of Corent with main public structures, including the central sanctuary, the public square and a building interpreted as the presumed meeting place of the Arvernian senate (after Poux 2014).*

most Temperate European Iron Age agglomerations follow Fletcher's model of an urban trajectory in which initially high-density cities morph into increasingly large but also increasingly low-density settlements.

Unfinished projects or communal spaces?

A final and closely related topic concerns the role of open spaces. As mentioned above, many *oppida* enclose large areas but present a low population density per hectare. Even those sites with a significant internal occupation present large free areas inside the fortified space. The layout of the walls was often determined by the local topography, but, in addition, the 'empty spaces' (Smith 2008) could serve a variety of economic and social purposes, from areas for agriculture and cattle breeding to spaces for political assemblies and religious celebrations (Fig. 9.4), and places for refuge of the rural population in case of danger. The recurrent existence of large open areas within the *oppida* suggests that these unoccupied spaces were in fact one of their principal elements, playing a fundamental role in the negotiation of control over people and resources. Rather than interpreting the existence of open spaces and low-density occupation as an indication for 'unfinished' projects, we should recognise that in many cases they constitute a defining characteristic of major settlements. To name only one extra-European example, even in the Mesoamerican megalopolis of *Teotihuacan* there were extensive open areas for agriculture (Cowgill 2015). In summary, urban open spaces are widely found in both ancient and modern cities (Smith 2008; Stanley et al. 2012; Woolley 2003), so that their presence in the *oppida* does not contradict the urban character of at least some of these sites.

Chapter 10

Urbanization in Iron Age Germany and beyond

Colin Haselgrove (Leicester)

Since large-scale excavations began in the 1950s at the *Heuneburg* and *Manching*, these two southern German sites have been pivotal in shaping our understanding of the profound changes in settlement and society that occurred during the Iron Age. New interventions have kept them both at the forefront of our research agenda, although now tempered by a better appreciation of the extent to which sites and landscapes in other parts of Germany may – or may not – conform to the overarching models of *Fürstensitze* and *oppida* that we have developed largely from their evidence. The papers presented at the workshop offer an excellent overview of current thinking about Iron Age urbanism on the part of a new generation of German archaeologists, so rather than attempt to summarise the many interesting ideas in the individual contributions, I will focus on three themes which seem to me especially relevant. First, however, a word about terminology.

Terminology

It is important not to confuse definitions and terminology with explanation. Many archaeologists still seem to treat classification as an end in itself, whereas, as Oliver Nakoinz notes, our aim should be to uncover underlying mechanisms. Terms like *oppidum* and *Fürstensitz* are a useful shorthand, but are now largely meaningless as a result of modifying the templates to accommodate new evidence. Trying to devise detailed criteria for recognizing urban centres quickly comes up against the absence of good quality evidence at all but a handful of sites. We see this in Caroline von Nicolai's frank discussion of which Iron Age settlements in Bavaria can be considered urban using a long list of 'archaeological urban attributes' which aim to capture 'the degree of urban development and the nature of urban processes.' *Manching* – the only site to meet all 14 of her criteria – is not only the most extensively explored, but also stands apart from the other so-called *oppida* in Bavaria in occupying a lowland position. Quickly we are driven down the well-trodden archaeological path of polythetic definitions: how many criteria must a site fulfil to be admitted to a particular class? Should we give more weight to some attributes than others?

Many papers emphasise the need to escape from Mediterranean-centric models. Twenty-five years ago, Greg Woolf (1993) presciently argued that *oppida* might represent a specifically European form of urbanism, in contact with, but distinct from the Classical world. A resort to medieval analogies to produce urban trait-lists (Metzler et al. 2016, 406–11) is equally questionable. On the other hand, concepts such as 'low-density urbanism' drawn from other cultural contexts – whilst helpful in opening our eyes to the wider possibilities, and probably apt for many Iron Age sites (Moore 2017; Fernández-Götz this volume) – are still devoid of much explanatory value. The onus remains on us to uncover the processes that generated and sustained such complexes at different times and places. Like other contributors, I see Michael Smith's looser functional definition of urban settlements as 'centres whose activities and institutions – whether economic, administrative or religious – affect a larger hinterland' (Smith 2007, 4) as well-suited to archaeological purposes, although like von Nicolai, I am inclined to retain a significant density of people living together as a relevant attribute, albeit one that many Iron Age centres met for only part of their lifetime or at certain times of year. In addition, I would consider 'living together' as applying to the populations of polyfocal complexes spread out over a wider territory (Haselgrove 2010, 101–2; Poux 2014).

Approaches

Adopting Smith's definition, coupled to the heterogeneity of the F*ürstensitze* and *oppida*, dictates that

we start from individual sites and complexes in their cultural and regional context. At the same time, the synchronicity and similarity of changes in different parts of Europe argues for a comparative approach at a continental scale. A key point – taken on board in the DFG '*Fürstensitz*e' programme (Axel Posluschny, this volume) – is to consider regions that do not manifest a particular phenomenon as well as those that did, asking how they differ in terms of economy, society and environment. The value of this approach is apparent in Gerd Stegmaier's analysis. In southwest Germany, he suggests the complementary distributions of *oppida* and *Viereckschanzen* may reflect different social strategies and choices on the part of the elite. A similar dichotomy is apparent in Iron Age Wessex, where zones dominated by multivallate hillforts are interspersed with areas with high densities of banjo enclosures (Haselgrove 1994). In Britain, archaeologists are relatively comfortable with the idea that contrasting settlement patterns indicate deeper social and cultural divisions, but on the continent this kind of thinking is often inhibited by the blanket belief in a '*Celtic*' Europe.

In Germany, our relative ignorance of the hinterlands of urban centres presents a serious obstacle to contextual analysis. Although knowledge of rural settlement has advanced in recent years (Günther Wieland, this volume), it lags behind many parts of Europe. Different frameworks for development-led archaeology have played a major part in this (Bradley et al. 2015). In France, where we can now chart rural site numbers on a timescale of 1–2 generations, the maximum occupancy of *oppida* in coincides with a sharp decline in rural site numbers. Whilst other factors no doubt contributed to the hiatus, not least the Caesarian invasion, the evidence from several areas points to sudden aggregation of dispersed populations into these newly founded defended sites (Haselgrove and Guichard 2013).

For the earlier Iron Age, the disciplinary divide between the Mediterranean and Europe north of the Alps is deeply unhelpful. For a short period at least, a minority of late Hallstatt centres were every bit the equal of leading sites in the Mediterranean. As Katja Winger's illuminating comparison of pre-Classical Athens and the *Heuneburg* underlines, we would benefit from a pan-European perspective – which should extend to contemporary mega-sites in Ukraine, such as *Zhabotin* and *Belsk* (Reinhold and Mordvintseva 2017). Rather than viewing one zone primarily through the rose-tinted spectacles of the Classical *polis*, we would do better to compare urbanization processes through the level playing field of archaeology. Admittedly many Archaic cities in Greece or Italy remain largely inaccessible under their successors, but characterizing them using language and concepts embedded in written sources is bound to create an impression of differences, which might not have been so apparent or important to people in the past. Winger's further comparison of *Manching* and *Rome* usefully makes the point that even in the later first millennium BC, many Mediterranean 'towns' and 'cities' were not physically dissimilar to equivalent centres north of the Alps, if only we could force ourselves to view them all through the same lens.

Open agglomerations

In recent years, the accolade 'earliest/first towns north of the Alps' has passed from *oppida* (Collis 1984) to the earlier *Fürstensitze* (Krausse et al. 2016), but this essentially rests on the *Heuneburg* and the French sites of *Bourges* and *Mont Lassois*, added to which both early and late horizons of Iron Age fortified sites are characterized by chronic instability. Indeed, Fichtl and Guichard (2016) argue that *oppida* were a response to a crisis affecting the entire 'Celtic' world, comparing the eruption of rampart building in the late second century BC with the *incastellamento* of feudal Europe at the end of the first millennium AD. In my view, we should focus more on changes between the fourth and second centuries BC. At this period, large unenclosed agglomerations – many of them of an overtly industrial character, some deliberately laid out – proliferated over a zone extending from the Atlantic to Hungary and southern Poland. They mostly occupy low-lying locations, and are often near major routes. Compared to *Fürstensitze* or *oppida*, there has been surprisingly little discussion of how and why these centres formed (including at the Cambridge workshop), but the centuries in question are marked by agricultural intensification, settlement expansion, increased specialization of production and population growth, driven or enabled by a developed iron technology. All of these factors must have contributed, along with the adoption of coinage, which within a few generations was used extensively at many of them.

These open settlements take a range of forms. Religious sanctuaries are a prominent feature of many, or in some cases precede them. Filet (2014) identifies up to six different types of agglomeration based on their centrality to regional settlement networks. The intensity of economic flows between them was arguably a key factor in their growth (Filet 2017), making this a possible instance of peer-polity interaction (Renfrew and Cherry 1986). Last but not least, these sites represent the first densely occupied settlements attested at or near the heart of many modern cities north of the Alps (e,g. *Basel*, *Berne*, *Geneva*, *Orleans*, *Paris*, *Toulouse*). Modern German towns with such antecedents include

Bad Nauheim, *Passau* and *Straubing*; further east, we might cite *Bratislava*, *Budapest* or *Vienna*.

Why do such sites not figure more prominently in debates about pre-Roman urbanism? The fact that the best documented of these agglomerations – *Manching* – is also something of an exception to the rule is partly to blame. It had no direct successor, but above all, the early unenclosed phase has been very much eclipsed by the later defences, the defining feature of an *oppidum*, and – because the discipline long equated the two – of urban status. More generally, we have been blinkered by the idea that Iron Age urban sites should share the same tight foci as Mediterranean cities and display continuity at a specific point in the landscape. In fact, whilst many agglomerations declined or were abandoned in the late Iron Age, the latter often took the form of temporary relocation to a more defensible location, with the inhabitants later returning to their original site, or to a new one nearby in the Roman period. *Levroux* is the best known example of this looser kind of continuity, but many sites follow a similar pattern. In other cases, the longevity is more subtle, because of the polyfocal nature of many Iron Age complexes (Auvergne, *Bobigny*/*Nanterre*/Paris). At this kind of 'centre', successive phases appear to wander over a wider landscape, which we are reluctant to accept as continuity. We should also bear in mind that Iron Age communities may have understood place in a very different way to ourselves, perhaps identifying with a tract of landscape rather than a particular built environment.

What was it like to be urban?

A final topic that deserved more discussion at the workshop concerns the nature of Iron Age urbanism in the sense of 'the way of life developed in dense urban communities' (Von Nicolai). What effects did living in larger groups have on the inhabitants? What changes in their lifestyles do we see over time, and were they for better or worse? Were they self-sufficient or did they have to bring in food from elsewhere? Do we see changes in agricultural production to meet rising demand? Was there a higher incidence of human (or animal) mobility at urban sites? Did places suffer pollution as a result of manufacturing metals or glass on an industrial scale? Did this activity make a mark on the wider environment? Did rural populations on average live longer than town dwellers? How does the age structure of Iron Age urban dwellers compare to other pre-industrial societies? Was there a higher incidence of disease in densely populated aggregations? The list of questions is potentially endless.

For a long time, archaeologists have largely avoided such questions as unanswerable, with some justification. The mortuary evidence from open settlements and *oppida* – our most direct way into the lives of their inhabitants – still leaves much to be desired. However with the data and techniques now available (e.g. stable isotopes, ancient DNA, simulation), we can start to pursue some of these issues. Agriculture is an obvious area where some headway has already been made. The research in the Czech Republic on the sustainability of food production in different environmental settings with a growing population is one example (e.g. Danielisová et al. 2013; Danielisová and Hajnalová 2014). Turning to France, I have long regarded the Aisne valley sites of *Condé-sur-Suippe* and *Villeneuve-Saint-Germain* as a prime example of short-term nucleation into fortified *oppida* at a time of crisis, but new analysis of their faunal assemblages reveals marked differences between them and rural sites, along with a focus on pork production, and import of animals to the larger sites (Paris 2016). Another example comes from Britain, where Lodwick (2016) has identified a series of agricultural innovations following the foundation of *Silchester*, the timing suggesting a response to, rather than a driver of, urbanization. Changes include intensified fodder management and stabling (perhaps freeing land to expand cereal cultivation) and the (re-) introduction of flax cultivation.

In his introduction, Simon Stoddart contrasts the relative instability of urban centres north of the Alps with a greater attachment of Mediterranean cities to fixed points, suggesting this implies 'radically different' social structures in the two zones. I agree with him on this last point, but, as will be clear from the above, I feel that to measure Iron Age urbanism in this way is to impose a Mediterranean straight-jacket. In future, in seeking to understand the essence of Iron Age centres we need to be more alive to the cultural variability of pre-industrial urbanism and pay greater attention to the possible agency of urban living itself in further transforming pre-Roman societies.

Chapter 11

Urbanism: a view from the south

Anthony Snodgrass (Cambridge)

Once, long ago, I believed in a clear definition of 'urban' and 'urbanization'. It was a typical Classicist's definition, inspired by the regular town-plans of the 'marble, well-governed cities' of the Mediterranean lands. But everything changed once it became clear that no such model could still command wide acceptance, even in Mediterranean archaeology.

The force of this change came home to me when I was asked, by the *American Journal of Archaeology*, to review a new book: the proceedings of a 1994 Copenhagen seminar entitled *Urbanisation in the Mediterranean in the 9th to 6th centuries* BC (Damgaard Andersen et al. (eds.) 1997; Snodgrass 1999). The (mainly young) contributors were clearly concerned with Mediterranean countries, but anyone expecting them to share such a traditional understanding of urbanism as I had accepted would have been much mistaken: one after another, they turned out to have completely renounced it. Urbanism, they broadly agreed, was anyway more a state of mind than an empirically based combination of material features: it arose within societies who had progressively embraced the idea of living together in larger than kinship-based groupings, and it developed to a point where the urban mentality affected everything within its orbit, notably including ritual. And since its product, the city, formed only a part of the human landscape as a whole, such external attributes as territories, viewsheds, roads and burials were also legitimate aspects of the study of urbanism.

But within Europe, 'the city' was long seen as a term and a concept at home only in the Mediterranean lands – the natural focus of the Copenhagen seminar; whereas for the purposes of this conference, 'town' proves a much more appropriate term (the German *Stadt* of course bridges both categories), as 'city' is hardly a suitable label for such types of settlement as the *Fürstensitz* or the *oppidum*. Yet these too, it will by now be agreed, were products of (not necessarily fully developed) urbanization. Here, fresh enlightenment has come from a somewhat older movement: the progressive recognition of the nature of settlement in the northern European Iron Age. Early understanding of this goes back more than fifty years, to Sjoberg's *Preindustrial City*; but as examples of early formative texts, I think of the papers by John Collis and Barry Cunliffe (Collis 1976; Cunliffe 1976) in the conference volume entitled *Oppida: the beginnings of urbanisation in barbarian Europe*.

There one can already read definitions of 'urbanism' that fully embrace the *oppida* of northern Europe in general. If at that time the discussion leaned rather heavily on the example of Manching, this conference has greatly broadened the data-base for the region of southern Germany – yet without necessarily accepting the full denomination of 'urbanism' for it (see Caroline von Nicolai's paper at this conference). One can in fact already find a hint of problematic status for this region in John Collis's 1976 paper, when he wrote: 'In Central Europe, this first move towards town life came to nothing', but then immediately made an exception for Germany south of the Danube.

He was perhaps thinking of a factor that I too find significant: the subsequent impact of the Romans. Accepting, as I think we should, the independent development of the barbarian *oppidum*, recognized in regions such as Bohemia that lay beyond most perceptible Mediterranean influences (where indeed it 'came to nothing'), we can for the moment turn away from these definitional problems of urbanism – destined, it seems, to be an unending preoccupation of archaeologists the world over – to some historical realities. Specifically, what of those other regions where Roman rule and Roman town life were quite soon to penetrate, such as southern Bavaria and Baden-Württemberg (or indeed southern Britain)?

Another, by now familiar, argument is relevant here: that the spread of pre-Roman urbanization did not merely prepare the path for the fully fledged version that the Romans brought, but decisively influenced its success or failure. Specifically, regions where Iron Age urbanism was fully embraced (Gaul, followed by Germany west of the Rhine) presently witnessed the healthy growth of Roman towns and cities; while in a second, intermediate zone, which was also to fall under Roman rule, but where urban development had been more sporadic and hesitant (southern Germany, much of England and Wales), Roman urban growth was similarly to be less sustainable, perhaps in some cases even stunted; and in regions which were to be tangential to Roman rule, but where there had been little or no pre-Roman urbanism at all (the rest of Germany, or much of Scotland), the Romans were not in a position to do more than provide distant archetypes for the establishment of lasting urban centres.

The theory has the merit of fitting the historical realities, and its application to southern Bavaria and Baden-Württemberg is interesting. For although Roman towns were to be established not far from the sites discussed in this conference – *Cambodunum* (Kempten) or *Augusta Vindelicorum* (Augsburg) – they could never rival the scale of such cities as Roman Trier or Mainz. Secondly, the Roman *limes*, once it came to be established, cut right through the middle of the distribution of both the (now abandoned) *Fürstensitze* and the (probably moribund) Iron Age *oppida*, disregarding any existing territorial boundaries. These two observations between them go far, first to place southern Germany firmly within the second, intermediate zone, where urban development had remained limited in its scope and depth; and almost as important, to reinforce the belief that such pre-Roman urbanization as took place in this zone did indeed grow up – as argued here by Manuel Fernández-Götz – independently of Mediterranean models.

Chapter 12

On the origins and context of urbanism in prehistoric Europe

Peter Wells (Minnesota)

The workshop from which these papers derive, organized by Simon Stoddart, presented a highly informative and richly stimulating overview of current research on urbanism in Germany. I wish here to expand briefly on four themes that emerge from the papers. These are ritual, design, communication, and interregional integration.

But first, I would like to make an observation on the importance of the archaeological study of the Iron Age in Germany. Germany has a very strong and active tradition of archaeological research and publication and thus offers an unusually rich database for the study of questions related to urbanism in prehistoric Europe. Furthermore, with its central location in Europe, the archaeology of Germany connects with the archaeology of other countries to the north, south, east, and west. Thus the patterns that can be recognized in the archaeological record of Germany can be linked with those in other regions of the continent.

Ritual

Several of the papers emphasize ritual as an important factor in the emergence of centres and urbanism in the Iron Age landscape. *Manching* in Germany and *Corent* in France have been repeatedly cited as exemplary of the link between ritual and urbanism (Fernández-Götz 2012, 2014d). As Caroline von Nicolai emphasizes in the case of *Manching*, and Gerd Stegmaier for both *Manching* and *Heidengraben*, much specific evidence can link ritual activity to the formation of urban centres.

I would like to emphasize the much broader concept of 'ritual' that is gaining ground in theoretical approaches to later prehistoric Europe, particularly among British archaeologists (e.g. Bradley 2003). In our post-Enlightenment minds, we tend to conceptualize ritual as something distinct from everyday life (Brück 1999), with special places and material culture associated with the performance of rituals, most often of a religious nature. But most human behaviour is 'ritualized' (Berggren and Stutz 2010, 185). The way we prepare meals, the way we interact with our colleagues, the way we dispose of rubbish – all of these behaviors are ritualized in the sense that people perform them repeatedly in more or less the same way, and in ways that are both specific to the cultural milieu in which they live and to some degree ideosyncratic to the individual. Stephen Wilson's *The Magical Universe: Everyday Ritual and Magic in Pre-Modern Europe* (2000) and Roberta Gilchrist's *Medieval Life: Archaeology and the Life Course* (2012) show the importance of this kind of everyday ritual in medieval times, when we have access to both textual and material evidence to examine ritual performances and their purposes. Ritual practice was thus an essential part of all people's lives in the past as it is in the present. This aspect of ritual is important to bear in mind when we contemplate the role of ritual in the development of larger places, such as the *Heuneburg* and the *oppida*.

What may be different with regard to ritual performance associated with the development of the large and complex settlements such as Manching and Heidengraben was the 'institutionalization' of ritual – the creation of special spaces for ritual, such as the 'temple' at *Manching* and the features at *Corent* in France (Poux 2006). I would suggest that this development is related more to the scale of the larger communities than to a fundamental change in ritual practice. No doubt individuals continued to practice their everyday rituals at the same time that spaces and structures for communal and more formal ritual practices were developed in the larger and more complex settlements.

A question worth investigating is, can we understand the ritual practices apparent at the *oppida* in

terms of a gradual increase in scale and complexity of ritual practice, or was there a fundamental 'jump' from smaller-scale ritual practice to that apparent at the *oppida*.

Design

As I have argued (Wells 2008, 2012, 2016), fundamental changes in design and representation happened at the same time as the increasing complexity and scale of settlement in Iron Age Europe. The fundamental design principal in the latter part of the Early Iron Age (Hallstatt D) was geometric. The pottery at the *Heuneburg* and at the *Burrenhof* (cited by Stegmaier), the fibulae at the *Heuneburg*, and the patterns on the dagger at *Hochdorf*, to mention a few examples, are all based on geometric elements. In the Early La Tène period, geometric structures gave way to floral patterns and stylized representations of animals and humans.

At the time of the formation of the *oppida*, another fundamental change took place in design. In most regions, pottery became plainer (but there were exceptions [Guichard 1987]), and most of it was wheel-made, mass produced, and unpainted. The principal decoration was vertical linear patterning. Similarly, fibulae became much plainer than they had been, and forms were designed to be mass produced (Drescher 1955). Representations of animals became much more naturalistic than they had been in the earlier phases of La Tène (Sievers 2017).

The striking plainness of material culture in the final phase of La Tène (La Tène D), relative to that of the earlier periods of the Iron Age, is closely related to the greatly increased scale of settlement with communities made up of larger populations, and to the expansion of economic activity, particularly evident in the scale of production of iron tools and in the growth of trade, both regional and inter-regional (Wells 2012, 214–21).

Are we to understand this new plainness in material culture simply as a *reflection* of the social and economic changes associated with urbanism, or was it in some way *instrumental* in those changes? We need to consider not only why potters and metalsmiths changed the nature of the objects they manufactured, but also how people *responded to* the material culture that they saw and used (discussion in Wells 2008). We need to think about the role that material culture, and specifically the design of material culture, played as agent (Gosden 2005, Robb 2010) in the formation of new mindsets that may have given rise to, or at least paved the way for, urban settlements of the *oppida* (Wells 2012, 196–9, 209–21).

Communication

Urban societies require more complex systems of communication than do rural societies. In Gordon Childe's (1950) original formulation of definitions of civilization and urbanism, writing was one of the essential elements. In the Near East, in the Shang Bronze Age of China, in Classical Greece, and in Mesoamerica, the formation and growth of cities was accompanied by the development and use of writing. Evidence seems to indicate that the societies of temperate Europe did not become 'literate' until after the Roman conquests, when the Mediterranean society introduced writing into its provinces.

Yet many traces of writing have been identified in Iron Age Europe, such as the Korisios sword from *Port* in Switzerland (Wyss 1956) and sherds bearing Greek or Latin letters at *Manching* (Krämer 1982). Caesar (I, 29) (Edwards 1917) mentions Helvetians with documents written in Greek. But there is no evidence for general use of writing at the *oppida*, though we might expect it, with all of the evidence for mercantile interaction with the Roman world. No evidence of writing has been forthcoming at the *Heuneburg*.

How can this be? If the *Heuneburg* had a population of 5000 people, how were interactions, and especially records of production and trade, managed? At the *oppida*, how were the complex systems of supply, production, distribution, and export coordinated without writing, which was so essential to urban centres in other societies? There must have been systems of transmitting messages over distances, and of keeping records, economic and historical. Of what did these systems consist? Can we identify means of transmitting and recording information at the Iron Age urban centres (see Zeidler 2003)?

Scholars studying complex societies in Mesoamerica and South America have argued for much broader definitions of 'writing' than the way we understand writing in the ancient societies of Asia and the Mediterranean region (Boone and Mignolo 1994). Perhaps applying some of their ideas to the archaeology of the Iron Age societies of Europe would lead us to recognizing manifestations of systems of communication that we currently overlook. Identifying such systems would open a vast new area for research into urbanism in the Iron Age.

Interregional interaction

Finally, I would argue that to fully understand urbanism in Iron Age Germany and Europe as a whole, we need to take a much broader perspective and look at connections and interactions not just with the societies of other parts

of temperate Europe and of the Mediterranean world, but with Eurasia as a whole, as a recent volume has suggested (Fernández-Götz and Krausse 2016). In *The Axial Age and Its Consequences* (Bellah and Joas 2012), authors argue that during the final millennium BC, especially during its second half, fundamental changes in economy, social organization, and worldview (including what we would call religion) occurred over much of Eurasia (see also Wells 2012, 200–1). We would gain a different and expanded perspective on the emergence of the Early Iron Age centres such as the *Heuneburg*, and of the *oppida* during the final centuries BC, if we investigated these developments within the broader context of the changes taking place in Eurasia as a whole.

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Index

Delicate urbanism in context

This volume brings together the latest understanding of pre-Roman German urbanism from seven German scholars, accompanied by a contextualizing commentary from five further scholars, based in the UK and America. The result is a dissection of the different dimensions of a delicate urbanism that compares and contrasts with other examples of sometimes more robust urbanism in other parts of first millennium BC Europe. The papers concentrate on examples in Baden-Württemberg and Bavaria, but range as far as Rome and Athens in making comparisons. The analysis takes both a quantitative and qualitative approach, investigating both the first Hallstatt (sixth/fifth centuries BC) and second La Tène (last few centuries BC) cycles of nucleation, assessing rural settlement and burial, as well as the underlying forces of ritual and production.

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